Your Child’s Journey to Better Hearing
A Parent’s Guide to Cochlear Implants
Childhood is a time for magical moments and playful discovery. And you want to make sure your child can actively participate in it all. Even if your child has severe hearing loss, cochlear implants can help them fully enjoy the pleasures of these first precious years of their life!

…Hearing the splash of puddles on a wet spring day.
…Listening to the whisper of wind rustling through the autumn leaves.
…Laughing at the funny thing their best friend just said.

At Advanced Bionics, we understand how important it is for your child to develop speech and language skills that allow them to play, learn and reach their full potential. That’s why we’ve developed the most innovative and restorative hearing technology alongside Phonak, our partner and the global leader in pediatric hearing care.

We’re also here to help you as you support and guide your child. Our team of hearing specialists and global network of implant recipients are ready to help answer any questions or concerns you have.

Welcome to our community! We’re here for you.
we are with you for every step of your child's journey when they speak their first words when they're with their friends at school
we are with you for every step of your child’s journey

when they’re learning to tackle new challenges

when they are ready to conquer the world

when they start to build their own future
A Life-Changing Decision

This is Harrison. He’s a happy, energetic little boy—and also a real-life cochlear implant user. When his parents, Mark and Maria, learned about his hearing loss, they had a hard decision to make. As caring parents, they were ready to use anything possible to give Harrison every chance to continue having a happy and successful life. But as a doctor and an engineer, they also knew they needed to carefully investigate the options and how those options could impact Harrison’s hearing now and in the future. In the end, they chose an Advanced Bionics cochlear implant (CI).

“We chose Advanced Bionics for their progressive technology. As a result of our decision, Harrison’s hearing and speech are amazing! It has been a tremendous journey for us and none of this would have been possible without Advanced Bionics.”
— Mark and Maria E., Parents of Harrison

We believe that better technology means better hearing and better hearing leads to better living. That’s why our teams of engineers, scientists, audiologists, surgical specialists, educators and support staff want to be a part of your child’s success.

With over 70 years of experience developing and delivering innovative hearing technologies, we are dedicated to providing the most complete, natural and future-proof hearing solution possible for kids like Harrison, for you, or for someone you love.

Getting a CI is a life-changing decision. That’s why we at AB design implants for life.
How Your Child Hears the World

The human ear processes an amazing range of sounds and delivers vivid detail, allowing your child to hear and recognize everything from a soft good night whisper to a dog’s playful bark.

Each and every sound can be described in three dimensions: intensity (loudness), frequency (pitch), and time (changes from moment to moment.)

With hearing loss, your child loses the ability to capture and process the details of each dimension, which can affect their ability to communicate, learn and socialize.

When searching for an individual solution for your child, it is important that you choose a system capable of distinguishing between a drum and a flute, a high note and a low note, and the voice of a friend from that of a stranger. Many parents like Harrison’s find that a cochlear implant system from Advanced Bionics gives their kids these details.

What is an Audiogram?

Audiograms give you a graphical picture of your child’s sense of hearing with a detailed description of their hearing ability.
The Wonder of Hearing

“Hearing connects us to the world and to one another in an amazingly tangible way. After years of working as an otologic surgeon, it remains a wonder to me that the biological phenomenon of hearing exists. But unfortunately, hearing loss reduces this amazing connection for approximately 360 million people, or about 5% of the world’s population. Cochlear implants represent an important advance in our ability to combat disorders of hearing and it’s been a marvel observing and participating in the remarkable success they’ve had in providing meaningful, useful sound to hundreds of thousands of people around the world with severe-to-profound hearing loss.”

— Charles Limb, MD, San Francisco CA
To read more from Dr. Limb, please visit: HearWithAB.com
How a Cochlear Implant Works

Hearing loss generally means there’s some kind of damage to a portion of your child’s inner ear (or cochlea) where sound is transferred to the hearing nerve. Oftentimes, a hearing aid can compensate for the damage by making sounds louder and easier to hear. However, when the loss is too severe, making sounds louder just isn’t enough.

Cochlear implants are the standard treatment for individuals with severe-to-profound hearing loss. These amazing devices restore hearing and make sounds clearer and easier to understand by bypassing the damaged portion of the cochlea and sending sound directly to your child’s hearing nerve.

A cochlear implant system has two parts: an external microphone and sound processor, and a cochlear implant, which is placed by a surgeon.

The quality of the sound delivered by a cochlear implant system is a direct result of the microphone location, digital processing power, and the implant technology.

Throughout this guide, we’ll explain more about how this technology all works together to give your child the best hearing possible.

1. The microphone captures sound waves that pass through the air.
2. The sound waves are converted into detailed digital information by the sound processor.
3. The headpiece sends the digital signals to the cochlear implant and electrode array in the inner ear.
4. The electrode array stimulates the hearing nerve.
5. The hearing nerve sends impulses to the brain, where they are interpreted as sound.
What’s Inside Matters
The Clarity and Comfort of Advanced Hearing Technology

Our HiRes™ Ultra 3D cochlear implant was designed for detail. It automatically encodes an incredibly wide range of intensities (up to 80 decibels), delivers frequency information to 120 cochlear places using a patented delivery method and provides up to 83,000 updates per second\(^4\)—far more detail than any other system can deliver.

We pushed the limits of technology to provide the most detailed sound because we want your child to get the most out of every listening experience—whether it’s hearing music, their teachers and friends or the amazing sounds of the world around them.

And with the first-of-its-kind multi-magnet assembly that provides 3D magnetic alignment to the magnetic field, the implant is also safe for 3.0 Tesla MRI without multi-magnet assembly removal to give your child the freedom of hassle free and pain free MRIs if they ever need one. We made sure it’s safe because we want your child to be able to benefit from the best technology, medicine and opportunities everywhere in life.

HiFocus™ Mid Scala Electrode

HiFocus™ SlimJ Electrode
Meet The World’s Most Advanced Cochlear Implant

Future-Proof
Our HiRes Ultra 3D implants are designed to accommodate signal processing improvements for decades to come. If you ever want to upgrade your child’s sound processor, they can enjoy new listening features and expanded capabilities without needing to change the implant.

Thin, Strong and Versatile
Our thin, small, discreet design is especially suitable for young children. The HiRes Ultra 3D is designed to exceed industry standards for impact resistance so your child can enjoy life’s adventures without limits.

Gentle on the Inner Ear
Once inserted into the cochlea, the tiny electrode array is used to stimulate your child’s hearing nerve. The HiRes Ultra 3D offers the surgeon the choice of two electrodes, depending on preferences and anatomical variations. The HiFocus SlimJ electrode and the HiFocus Mid-Scala electrode are both designed to protect the delicate cochlea structures and provide complete coverage of the cochlea for full-spectrum sound.

Hassle free MRI
MRI diagnostic imaging uses powerful magnetic fields that can interfere with the use of certain medical devices. Our HiRes Ultra 3D cochlear implant has a multi-magnet assembly that provides alignment with the strong magnetic field, allowing no restriction on MRI head movement. This means far less stress for your child during the most common types of MRIs.
High-Performance Technology for High-Performance Childhood

Our Naída CI sound processor provides unique, groundbreaking features proven to help your child effortlessly hear better in any environment while giving them the durability and flexibility to participate in all of childhood’s fun.

Our thin, light processor is discreet and comfortable for all-day use, and nine color options give your child the freedom to blend in or stand out. Rechargeable or disposable batteries make powering up easy, while simple, intuitive buttons let them easily control volume and settings. Or, they can keep it on automatic for the greatest ease of use.

- **Universal Headpiece with Microphone**: provides an off-ear wearing option for added flexibility.
- **Volume Control**: simple control for times when you need a little more or a little less.
- **Program Control**: an easy way to access advanced programs, should you need them.
- **Directional Microphone**: a built-in, automatic, directional microphone for understanding in noise.
- **Battery**: rechargeable or disposable options to give you the power you need.
- **T-Mic™ 2 Microphone**: the only in-the-ear microphone for better sound quality, performance, and natural phone use.

Naída CI Color Options
Superior Performance and Sound Quality
Your child can enjoy natural sound quality and phone use with the only in-the-ear microphone. With this automatic directional microphone, they hear their best in noise and never miss important sounds.

Effortless Connectivity
If your child has a smartphone, give them wireless flexibility with a design-integrated boot for Bluetooth and remote microphones. They can take a call directly in their ear with a Naída CI compatible home phone from Phonak.

Coordinated and Customized Hearing Solutions
Keep both ears working together with Naída CI. The automatic, wireless, ear-to-ear network allows your child’s sound processors to work seamlessly together or with other hearing devices. Customizing a solution for the specific hearing needs of your child is easy.

Activity and Flexibility
Give your child the uncompromised freedom to dive in and enjoy the sound in wet and wild places with our waterproof AquaCase™ enclosure. Our off-ear clip keeps everything in place so you don’t have to worry about them losing their processor.
Stereo Focus: Synchronized Sound Solutions for Every Child’s Situation

AB and Phonak—Better Together

AB has partnered with Phonak, our sister company under the Sonova banner, to design a range of powerful technology and sound and hearing innovations that work seamlessly together to give your child optimal hearing in any environment, no matter what product configuration or models they use.

From hearing aids, to cochlear implants, to upgraded processing technology, to bimodal, and even binaural solutions, you can count on us to always provide you with the newest innovations, and the best care and technology.
We Have Two Ears for a Reason

Hearing is a team effort that requires both of your child’s ears to work in harmony. That’s why you shouldn’t settle for any hearing technology that’s less than a complete solution.

The Naída CI sound processor is the only cochlear implant system capable of automatically establishing a wireless network with devices on the other ear. Using Phonak’s Binaural Voicestream Technology™ feature, this network capability allows your child to simultaneously adjust volume or change programs in both ears, stream phone calls to both ears and enjoy automatic noise filtering technology in both ears so they can better understand speech and keep their hearing perfectly synchronized.

By sharing audio signals with another Naída CI or a hearing aid, Naída makes sure your child can fully enjoy sound in stereo no matter what combination of hearing solutions they have.
Transmitting the True Details of Sound: The Unparalleled Performance of the Naída CI Q Sound Processor

We know you have high expectations for your child’s future and want them to learn to talk, laugh, make friends and learn just like all the other kids. There’s no magic formula for success but one thing that will most definitely aid them? Hearing in detailed, rich and complete sound.

Thanks to our partnership with Phonak, the world leader in hearing aid sound processing technology, we’re constantly developing and implementing groundbreaking new approaches, giving your child the best and most-detailed hearing possible.

Clear, effortless hearing in every setting

AB offers the most cutting-edge, sophisticated sound processing for high-performance hearing. This upgradeable technology is designed with one unwavering goal in mind: to help your child hear their best in virtually any environment, from a quiet library to a loud classroom.
Simply Automatic

AutoSound OS
Children move through the world to experience many different sound environments. With AutoSound™ OS sound processing, our Naída CI sound processor intelligently analyzes and automatically adapts to the sound around them so they hear their best wherever they go without having to change programs or adjust any settings. That means they can independently conquer their world without worrying about having to make any adjustments.

Binaural VoiceStream Technology
Naida CI Q Series sound processors provide exclusive Phonak Binaural VoiceStream Technology™ to help your child hear speech better in noise and on the telephone, to take the strain out of conversations. This technology also allows them to wirelessly stream music, phone calls, TV shows, and endless other media to one or two Naida CI processors or a processor and a compatible Phonak hearing aid at the same time.

UltraZoom Feature
This dual-microphone technology pioneered by Phonak is designed to focus on sound from a speaker located in front of the listener for improved speech understanding in noisy settings. Ideal for kids in school.

ZoomControl Feature
Allows your child to effortlessly focus on a speaker in front of, beside or behind them. Ideal on the playground or in the school cafeteria.

DuoPhone Feature
Kids these days don’t go anywhere without their phones. This feature automatically streams calls from any kind of telephone to both ears at the same time for easier conversations. This gives them the confidence for easy phone calls and you the freedom to get in touch anytime you need.

QuickSync Feature
QuickSync offers the unique convenience of one-touch control, so any volume or program adjustment you or your child makes on one processor is automatically applied to the other. This keeps the system fully coordinated and calibrated for high-quality hearing.
Custom Language Learning & Development Tools for Every Child

Your child is beginning a new adventure into the amazing world of sounds, voice, and music. Helping your child develop their listening and language skills right from the start will set them off on the right path for a life of hearing, speaking, learning and growing.

We’ve developed a set of resources for children of all ages to support their first steps into communication, music and education. These tools are tailored to your child’s individual needs and designed for opening and exploring the magical world of sound. Wherever your child is in their hearing and learning journey, we’re ready to help them grow.

Every child has different needs and we are here to assist.

Up to 40% of children with hearing loss have additional development disabilities. If your child has special needs beyond hearing loss, Advanced Bionics is fully equipped with tools and technology to assist you in supporting your child’s development and everyday life in the best possible way.

Life can be extra-challenging for a child with additional needs. Our goal is to help all children be as independent as possible.
BabyBeats™ Early Intervention Resource
Developing and Connecting Through Music

“Music is one of the most natural ways that a child can bond with their parents and begin brain development. Early exposure to music is also one of the best ways to encourage natural musicality. That’s why it’s at the heart of BabyBeats. BabyBeats aims to provide parents, pediatric audiologists, therapists and early interventionists a hierarchically structured, but simple set of exercises and activities based around music that can be used to stimulate early listening, language and communication as well as social bonding and emotional development.” — Christine Rocca, creator of BabyBeats

The BabyBeats app is filled with motivating and fun musical activities for parents of babies and toddlers with hearing loss to bond, play, and learn together. The app creates opportunities for singing, talking and listening in the home and guides parents through activities for building the foundation for later learning, listening and communication. Available for iOS and Android™.

Please visit www.ABRehabPortal.com to get access to the BabyBeats app.
Maximizing Their Hearing Potential with Unique Family-Focused Hearing Care

Our full range of educational programs helps provide the latest resources to help your child hear their best and get the most from their cochlear implant. The programs include a range of practical tools and ideas set around everyday routines to encourage listening to everyday sounds and music and to facilitate the development of spoken language and communication. The materials are easy to use at home and can be tailored to the needs of your child as they grow.
Our unique rehAB program offers a variety of valuable resources to help your child to get the maximum benefit from their cochlear implant technology.

For more information about our unique tools and how they can support your child’s hearing journey, please visit our AB rehAB Portal www.ABRehabPortal.com
Unlimited Potential in Childhood and Beyond with Naída CI

If your child loves to run, bike, swim, or play sports, the durable Naída CI sound processor helps them keep moving. The behind-the-ear design is perfect for most activities and environments, and can withstand common elements like rain, sweat, and humidity. Want to go more extreme? Don’t risk your child’s safety or spontaneity by covering your microphone. The Naída CI system offers a waterproof microphone. This means your child can enjoy uncompromised sound quality in and around the water with no loss of hearing performance. So, if your child has plans to cliff dive, rock climb, complete a triathlon, or just relax by the pool, with Naída CI, they won’t miss a sound!

“Seeing your deaf child playing in the water, hearing the crashing waves, snorkeling, communicating with their friends and siblings at the beach is a dream come true.” — Terrie K., Mother of Poppy
Uncovered, Uncompromised and Unbelievably Clear Underwater Hearing

The Naída CI gives your child the freedom to pursue any activity, no matter how wet or messy. They want to swim in the pool or take a dip in the ocean without compromising their ability to hear clearly? They want to go run through a sprinkler or a spring rain? Whatever the activity, if it involves getting wet, sweaty, dirty, or dusty, AB’s fully waterproof technologies offer unique advantages for any situation.

- The AquaMic™ headpiece is the industry’s only waterproof processor microphone for uncompromised hearing in, under, or out of the water.

- The sturdy, waterproof AquaCase™ enclosure provides protection for the Naída CI while your child enjoys any adventure, in any environment.
Get Connected
Reach Out and Tune In with Phonak’s Fully Compatible Streaming Accessories

Let your child discover the freedom of wireless communication and the incredible benefits of better hearing in noise. With AB, your child has access to proven Phonak technology already relied upon by over half a million hearing aid users around the world. Phonak wireless streaming accessories transmit crystal clear audio directly to your child’s processors or a compatible Phonak hearing aid.

The **Phonak TVLink II accessory** streams audio wirelessly from any television via the ComPilot to your devices.

The **Phonak ComPilot accessory** connects wirelessly to all of today’s popular media devices so you can enjoy music, radio, and more straight from any smartphone, computer or Bluetooth-enabled technology.

The **Phonak RemoteMic accessory** streams a speaker’s voice wirelessly via the ComPilot to your child’s devices so they can chat one-on-one more easily and with greater clarity in noisy situations or over longer distance.
Connecting to Your World

Roger Wireless Streaming Technology

We all have times when we could use a little help. Whether your child needs to better understand speech in noisy situations or over distance, with one speaker or in a group, connect to wireless microphone systems, talk on the phone, watch television, or hear music more clearly, our ultimate streaming technology, Roger, has a solution.

Roger is the digital wireless transmission standard from Phonak that wirelessly transmits sounds directly to the Naída CI sound processor to bridge the understanding gap in noisy situations and over distance. With the Naída CI and its design-integrated Roger™ receiver, your child can connect to a wide array of Roger and other Bluetooth devices, making it the ideal option for any wireless listening experience.

Roger System for Schools

To succeed in school, your child needs to hear the bell, follow the teacher’s lessons, hear the responses from classmates, and understand the narrator of documentaries. Teachers around the world trust Phonak + Roger technologies to help their students hear their best. And with the Naída CI sound processor, your child will have access to both. With the design-integrated Roger receiver, the teacher’s voice, classmate’s conversations, and sound from multimedia devices can be sent directly to your child’s ear—allowing them to enjoy better sound quality and better speech understanding in noise and over distance.
Compatible Roger Mic Accessories for Extra Hearing Power

Roger is the digital wireless standard from Phonak that enables your child to hear and understand more speech in extreme noise and over distance. Using directional microphone technology that easily integrates with your child’s Naída CI, these specialized Roger accessories transmit crystal clear sound while reducing background noise so your child can hear more in school, at lectures, and during one-on-one conversations.

The design-integrated Roger™ 17 receiver attaches easily and discreetly to the Naída CI processors, allowing your child to receive great quality audio from your choice of two Roger microphones.

The Roger™ Clip-On Mic is a discreet wireless microphone that can be clipped to a speaker’s clothing, making it ideal for one-on-one conversations in noisy surroundings. It can also be used to stream audio wirelessly from your TV, computer, tablet, radio, or MP3 player.

The Roger™ Pen is a 3-in-1 device that can be used in multiple ways. By automatically sensing its position and adjusting to the source of sound, it can be used in both group settings or as a targeted one-on-one communication tool. And its Bluetooth-streaming capability can be used for mobile phone calls or for letting your child easily connect to enjoy their favorite music, videos, movies, or TV shows.
Phone connectivity features and accessories

Whether your child uses one or two Naida CI sound processors, or a processor and compatible hearing aid, AB and Phonak innovations make hearing and understanding on the phone easier than ever. The Naida CI gives you more options for hearing on the phone or chatting online than any other cochlear implant system.

The **Phonak EasyCall accessory** connects easily to any Bluetooth-enabled mobile phone or smartphone to streams calls directly from your child’s phone to their Naida CI sound processors or their processor and a compatible Phonak hearing aid without the need for any other device or transmitter.

The **Phonak DECT Phone** transmits landline calls wirelessly to your child’s bilateral processors or a processor and compatible Phonak hearing aid. And since it’s a separate, external device, it can be used by anyone in the family to stream calls to their devices too.

**AB’s T-Mic™ 2 microphone**, that comes standard with all Naida CI, is the only microphone in the industry that sits at the opening of the ear canal, so your child can hold the phone to the ear and have conversations just like everyone else.
10 Reasons to Choose AB for Your Child

Choosing a cochlear implant for your child is a life-changing decision. Here are 10 reasons why your child and Advanced Bionics are a perfect fit.

1. **Clarity in Noise**
   AB technology offers the most-advanced solutions for automatically filtering out background sound and hearing in noisy situations.

2. **Technology for Synchronized Hearing with Both Ears**
   AB implants are fully compatible with Phonak’s full line of hearing loss solutions for two ears—no matter the model, no matter the configuration.

3. **Automatic Features**
   Quiet to loud. Noisy to noisier... With AB, there’s no need to change your child’s program or adjust any settings—their AB sound processor automatically takes care of that for you.

4. **Hearing on the Phone**
   Wireless connectivity and automatically bilaterally synchronized sound, AB technology allows your child to listen and talk on the phone with full comfort, clarity and confidence.

5. **Wireless Connectivity**
   With the proven combination of AB innovations and Phonak’s groundbreaking Roger technology, your child can enjoy all of the modern convenience of wireless streaming from all kinds of devices right to their ears.
6. **Full Music Enjoyment**
Using the highest sound resolution available, AB’s groundbreaking innovations will literally bring music to your child’s ears—helping them appreciate all the nuances of music and lyrics more clearly than ever before.

7. **Uncompromised Activity**
Go ahead, let them get wet! Or sweaty or dirty or dusty... AB’s fully waterproof and durable technologies help your kids hear better no matter where they go or how active they are.

8. **Future Upgradability**
As hearing technology improves, so will your child’s AB implant—without the need for additional surgery. Enjoy unmatched programming flexibility, and the capacity for future technologies.

9. **Support, Education, and Family-Focused Hearing Care**
With support resources like HearingJourney.com, TheListeningRoom.com and our mentor program, our community of professionals and past recipients will be by your side every step of the way in your child’s hearing journey.

10. **Comfort and Convenience**
They can wear it on their ear, or clip it anywhere they want. Our enclosure options, including our waterproof AquaCase enclosure, are designed for flexibility and comfort so your child never has to compromise performance.
Working Together for Better Hearing for Everyone: Hear the World Foundation

32 million children worldwide are affected by disabling hearing loss. The majority of them live in low- to middle-income countries and often lack access to any audiological or medical care. With this need in mind, Sonova founded the nonprofit Hear the World Foundation in 2006. The foundation supports people with hearing loss, particularly children, who are in need. Hear the World operates worldwide, focusing on prevention, care and training. Since its establishment, the nonprofit has supported over 80 projects in 39 countries with funding, hearing technology, and expertise.

As a member of the Sonova Group, Advanced Bionics is a proud supporter of the Hear the World Foundation. Each year, our employees volunteer their time and talents to participate in mission trips at home and abroad. We have a true passion for bringing everyone the delight of hearing and this is one of the ways in which that passion shows.

For more about the foundation’s worldwide engagement: HearWithAB.com
About Advanced Bionics
From the beginning, AB has pursued the principle of innovation for better hearing. Our commitment to putting patients first and providing the best possible hearing performance remains at the forefront of what we do. To fulfill this commitment, we employ hundreds of engineers, scientists, and hearing professionals who focus exclusively on ways to improve your child’s hearing experience.

Each year, we host educational events for surgeons, audiologists, speech therapists, and cochlear implant candidates and recipients. We sponsor cochlear implant research at some of the most prestigious and influential universities around the globe. We develop training materials for cochlear implant recipients, to help them get the most from their hearing and we continuously work with professionals and recipients to investigate innovative ways to bring you better hearing.

We are driven by the success of the people who choose Advanced Bionics and we are honored to have the opportunity to help those with hearing loss enjoy a life without limitations.

Our headquarters and manufacturing facilities are located near Los Angeles, California and we are part of Sonova, the world leader of innovative hearing care solutions. Originated in 1947, the Sonova group is present in over 100 countries around the globe and has over 14,000 dedicated employees and owns other hearing aid manufacturers, retail stores, and other hearing related businesses in addition to Advanced Bionics and Phonak.
Scientific Studies


