



Advanced Bionics

HOW A COCHLEAR IMPLANT WORKS





What is a Cochlear Implant?

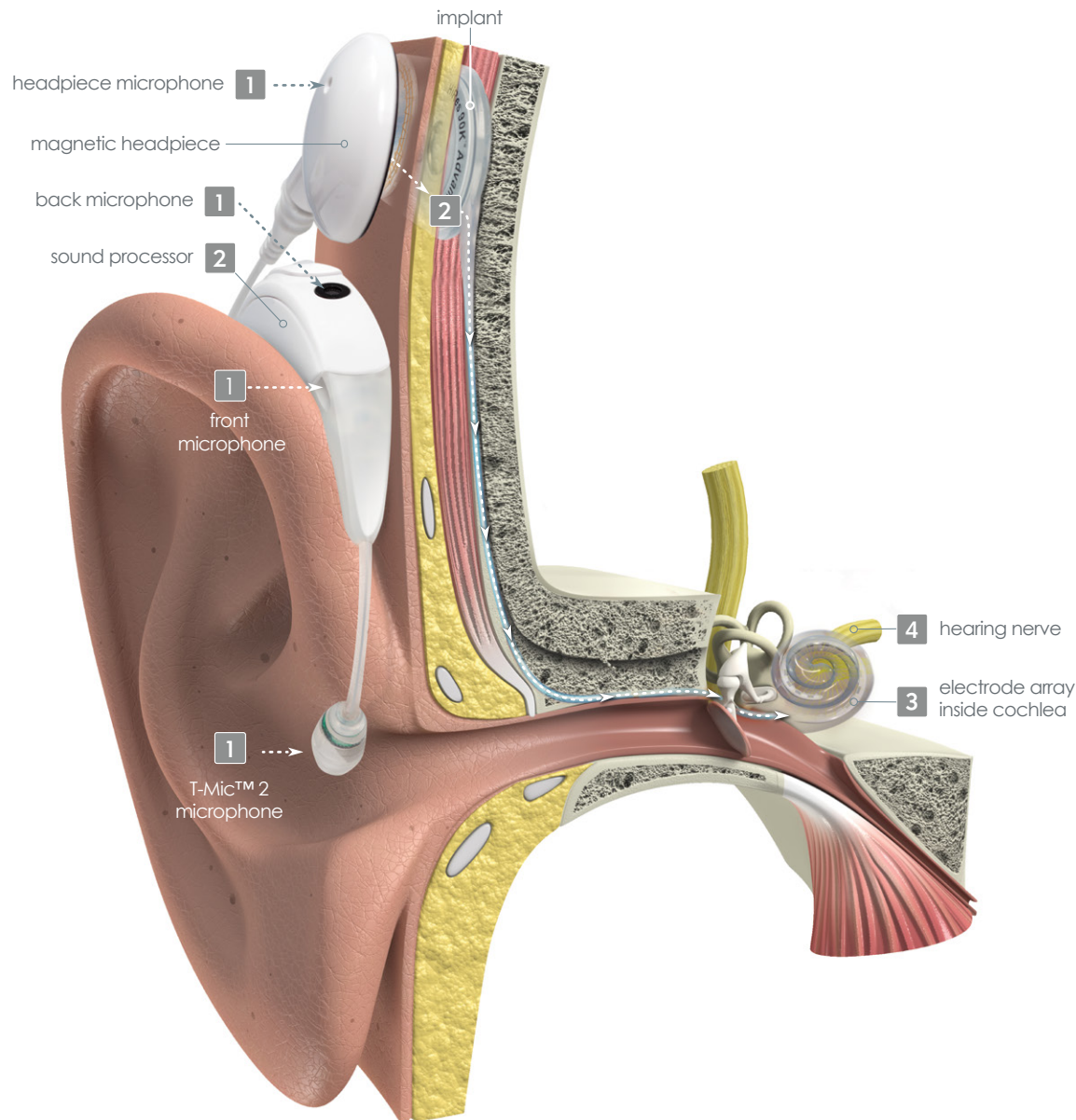
Advanced Bionics provides the world's most advanced cochlear implant system to help you or your loved one hear again—or experience the joy of sound for the first time.

A cochlear implant is a highly advanced medical device and the only technology that is capable of functionally restoring one of the five senses.

Cochlear implants provide an effective alternative to hearing aids because they don't use amplification. Instead, they bypass the damaged part of the ear and use electrical stimulation to enable you to hear.



How an Advanced Bionics Cochlear Implant Works



A cochlear implant system consists of an **internal component**, the **implant** and **electrode array**, as well as **externally worn components** comprised of the **microphones**, **headpiece**, and **sound processor**.

- 1** Microphones capture sound waves that pass through the air.
- 2** The sound waves are converted into detailed digital information by the sound processor and sent to the headpiece.
- 3** The headpiece then transmits the digital signals to the implant, which converts them into electrical signals.
- 4** The electrical signals are delivered to the hearing nerve by the electrode array. The hearing nerve sends impulses to the brain where they are interpreted as sound.



the lifestyle™ line

flexible wearing to suit your life and your style

AB offers the industry's most flexible wearing styles to meet your needs. Slim and trim, **Naída CI** sound processors are incredibly lightweight for barely noticeable on or off-the-ear wearing while maintaining optimal microphone placement. With the waterproof **AquaCase™** accessory and **AquaMic™** headpiece microphone, you can hear your best wherever you go — in water, mud, dirt, or dust.

For those who prefer to never wear anything on the ear, the waterproof **Neptune™** processor features the only **freestyle™** design giving you the freedom to choose your wearing style — in your hair, on your arm, under your collar, in your pocket — without compromising performance.



HiRes 90K Advantage implant *the most advanced implant technology*

The HiRes 90K™ implant family features the most advanced sound processing circuitry in the world, providing unsurpassed programming flexibility, nearly unlimited ways to deliver sound, and full upgradeability for access to tomorrow's innovations without surgery.



Naída CI sound processor *the industry's only featherlite instyle™ processor*

The Naída CI Q90 sound processor from Advanced Bionics provides unique, groundbreaking features that help you to effortlessly hear better in any environment. The technologies of AB and Phonak have combined to provide advantages no other manufacturer can match.



Neptune processor *the world's only swimmable freestyle™ processor*

AB broke new ground with the revolutionary Neptune™ sound processor. Designed for the best hearing in and out of the water, Neptune is the first and only swimmable sound processor in the world with the most flexible wearing styles.





Choosing Cochlear Implants

For some people with significant hearing loss, hearing aids may not provide an effective solution. If your inner ear is not functioning correctly or has suffered damage, it does not matter how much a hearing aid amplifies sound—you simply will not hear it. That is when the time has arrived to consider a cochlear implant.

Children have Special Hearing Needs

Children begin learning to speak from the day they are born. By age three, they need to hear approximately 30,000 words a day to develop the language skills necessary to succeed in school. This need to hear language strongly reinforces the importance of early implantation in children with hearing loss who would benefit from cochlear implants.¹

Whether you are considering a cochlear implant for yourself or a loved one, Advanced Bionics is the best choice for hearing your world. AB offers the world's most advanced cochlear implant for hearing that more closely resembles a normal-hearing ear.

Multiple Hearing Options with AB and Phonak

In 2009, AB joined Phonak as part of the Sonova Group of companies and began a collaboration unlike any other in the industry. Since then, the innovation leaders in cochlear implants and hearing aids have continuously combined technologies to deliver new, unequalled hearing solutions.

1. Hart B, Risley TR. (1995) Meaningful Differences in the Everyday Experience of Young American Children. Brooks Publishing Co, Inc., Baltimore, MD.

Are You a Candidate for Cochlear Implants?

YES

NO

- I have difficulty following conversations without lip-reading.
- I hear pretty well in quiet environments, but struggle in noisy environments or when in a group.
- I cannot follow most telephone conversations, especially if I don't know the person calling.
- I feel isolated and limited, both socially and occupationally, because of my hearing loss.

☐☐☐☐☐☐☐☐

Is Your Child a Candidate for Cochlear Implants?

- Does your child have delayed speech and language development as a result of his or her hearing loss?
- Does your child rarely respond to his or her name?
- Does your child avoid social interaction or lack the appropriate skills to interact with other children or adults?
- Do you have concerns about your child's ability to hear speech in noisy environments?
- Do you have concerns about your child's ability to participate and succeed in school with normal-hearing peers?

☐☐☐☐☐☐☐☐☐☐

If you answered **“Yes”** to any of these statements, you or your child may benefit from cochlear implants.

To find out if you or your loved one is a candidate for cochlear implants, contact Advanced Bionics:

Call: 866.844.HEAR(4327) **Email:** hear@AdvancedBionics.com **Visit:** AdvancedBionics.com



The Power of Two Working Together as One

The innovation DNA of AB and Phonak have combined to deliver performance technologies that will change the way you hear.

To learn more about the unique advantages of hearing with Advanced Bionics, call **866.844.4327 (HEAR)**, email **hear@AdvancedBionics.com**, or visit **AdvancedBionics.com**.



Advanced Bionics AG
Laubisrütistrasse 28, 8712 Stäfa, Switzerland
T: +41.58.928.78.00
F: +41.58.928.78.90
info.switzerland@AdvancedBionics.com

Advanced Bionics LLC
28515 Westinghouse Place
Valencia, CA 91355, United States
T: +1.877.829.0026
T: +1.661.362.1400
F: +1.661.362.1500
info.us@AdvancedBionics.com

For information on additional AB locations, please visit
AdvancedBionics.com/contact

Pictured on the Cover:
Harrison Edwards, AB recipient

The AB recipients, their family members, and friends featured in our brochure have not been compensated for the use of their image and stories in this material. Not all products listed are available in all territories and not all features described here are available on all devices. Talk to your hearing healthcare professional to find the solutions best suited to your needs.