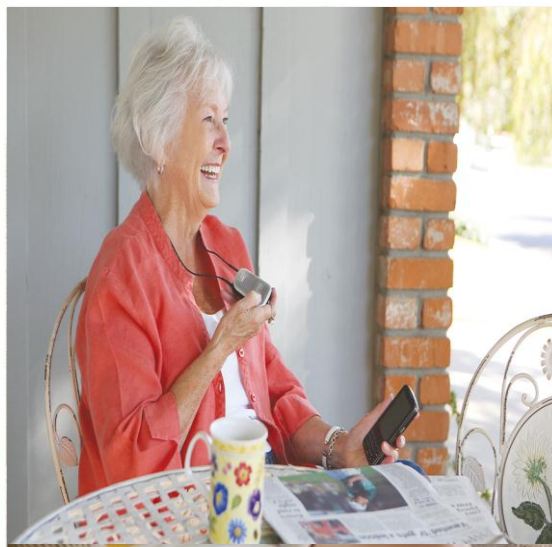


Introduction to Cochlear Implants and Advanced Bionics' HiResolution™ Bionic Ear System



Advanced Bionics



Discussion Topics

- Who is Advanced Bionics?
- What is a cochlear implant?
 - Difference between cochlear implants and hearing aids
 - How does it work?
- Who is a cochlear implant candidate?
- Current Advanced Bionics technology

Mission



At Advanced Bionics, we are *dedicated* to improving lives by developing technologies and services that help our recipients achieve their full potential.



The trust patients place in us inspires us to act with *integrity and transparency* as we strive for excellence each and every day in all that we do.



Our commitment to putting patients first and providing the best possible hearing *performance* remains at the forefront of all that we do.



The Best of Two Worlds



HiResolution Bionic Ear™ System

Most sophisticated and reliable
cochlear system on the market

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Most sophisticated and reliable
cochlear system on the market

Latest HI generation platform

Front End Technology

- Multi-Channel Adaptive Beamformer
- Noise cleaning systems

HI Body Area Network (HIBAN)

- Ear-To-Ear Communication
- Wireless Connectivity
- Audio Streaming

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HI Body Area Network (HIBAN)

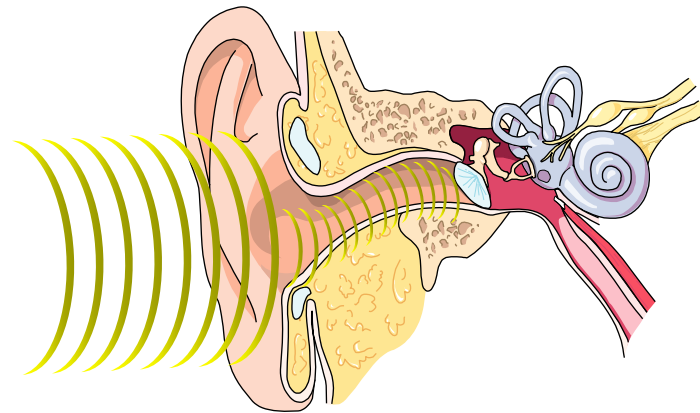
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How is a CI different than a HA?

Hearing Aids (HA):

- acoustically amplify sound, relying on the responsiveness of surviving hair cells



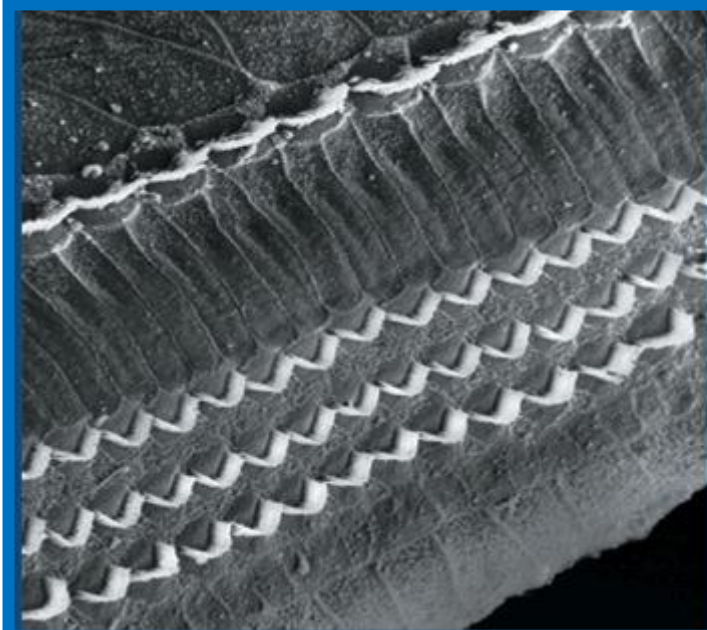
Cochlear Implants (CI):

- bypass damaged hair cells and stimulate the nerve directly

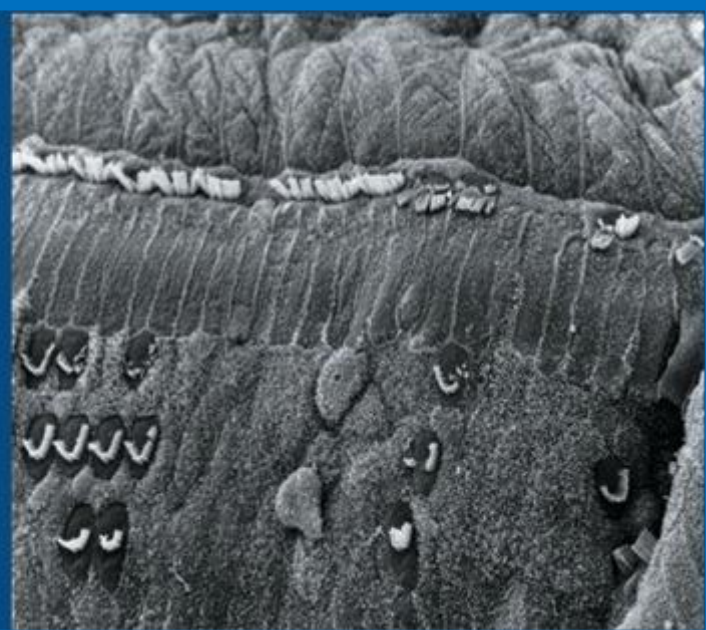


How is a CI different than a HA?

Healthy



Damaged



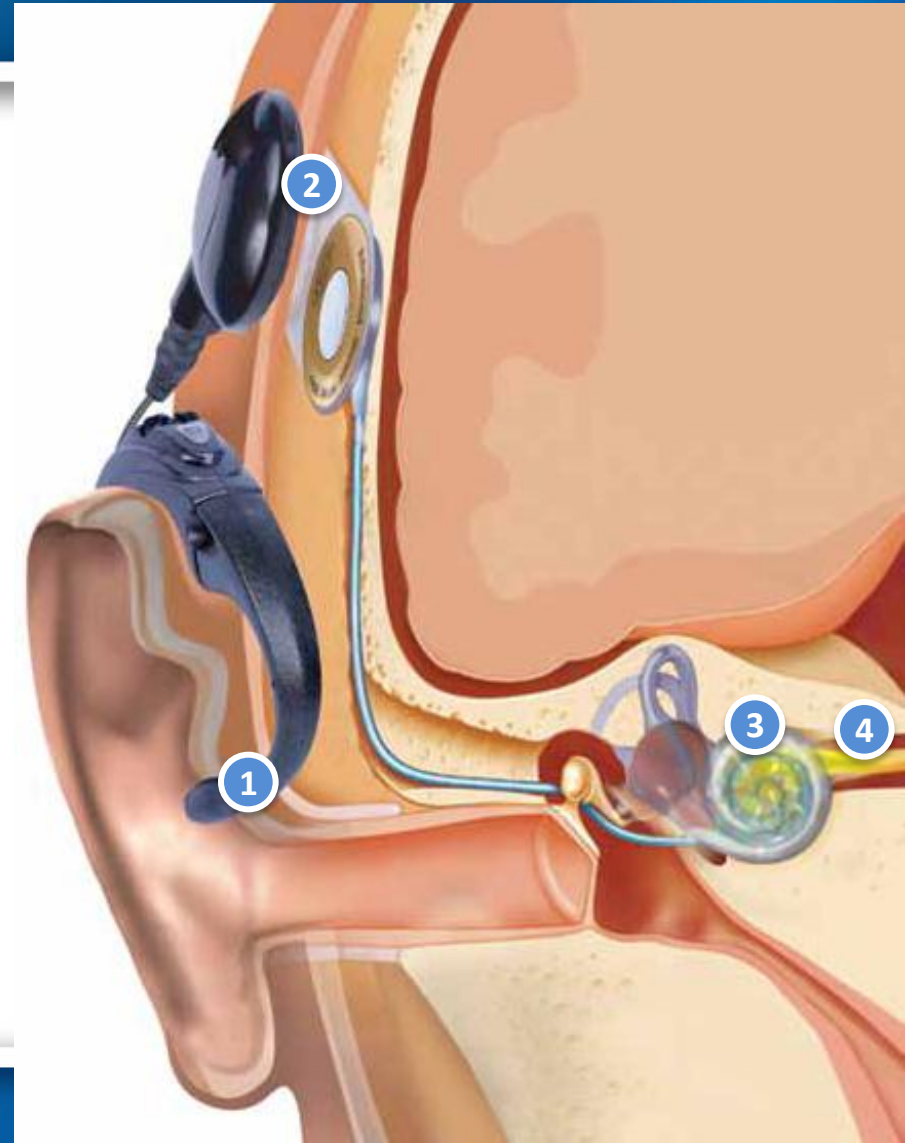
Components of a Cochlear Implant System

- Sound Processor (SP)
- Headpiece (HP) and Cable
- Implant
- Electrode Array



How a CI Works

- 1 A **sound processor** captures sound with a **microphone** and then converts it into detailed digital information.
- 2 These digital signals are sent from the **headpiece** to the **implant**, where they are converted into electrical signals.
- 3 These signals travel to a tiny **electrode array** placed inside the cochlea.
- 4 The electrode array sends electrical signals directly to the hearing nerve, bypassing damaged cells. These signals are then sent to the brain, where they are interpreted as sound.



How a Cochlear Implant Works

How a Cochlear Implant Works



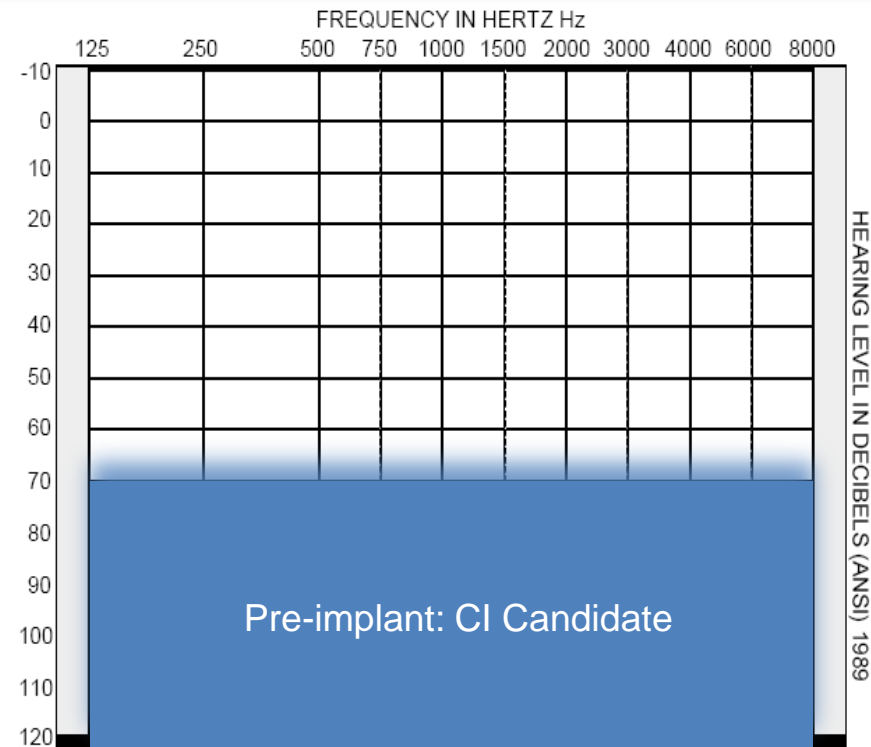
Cochlear Implant Candidacy



Who is an adult CI candidate?

Limited benefit from HA

- Difficulty communicating 1:1, even in quiet room
- Need captions for TV
- Avoid social activities
- Depend on lip-reading to understand conversations
- Trouble hearing on phone
- No longer enjoy music



Adult Outcomes



“My friends and family have told me so many times that they see how my life has changed now that I can hear with my cochlear implants. Every day is an exciting day. I don’t hesitate to do anything because not being able to hear is no longer an issue for me.”

~Evelyn Gardner, AB recipient

Naída CI



40% Smaller

Miniaturized design, Integrated controls, 12 fashionable colors, Flexible wearing accessories, Tmic2, 4 microphone options, Phonak Binaural VoiceStream Technology, HiRes Optima, Zinc-Air battery option, Rechargeable battery options...

Up to 55% performance improvement

ClearVoice, UltraZoom, ZoomControl

100% Wireless Connectivity

DuoPhone, QuickSync, AB myPilot, ComPilot, Remote Mic, TV Link



Naída CI Q70 Features

proven AB technologies
leading the industry in performance



T-Mic™ 2
natural microphone placement



ClearVoice™
the world's only speech enhancement technology **clinically proven** and **FDA approved** for superior performance



HiRes Fidelity 120™
the **most accurate** sound



AquaMic
the world's only **underwater microphone**

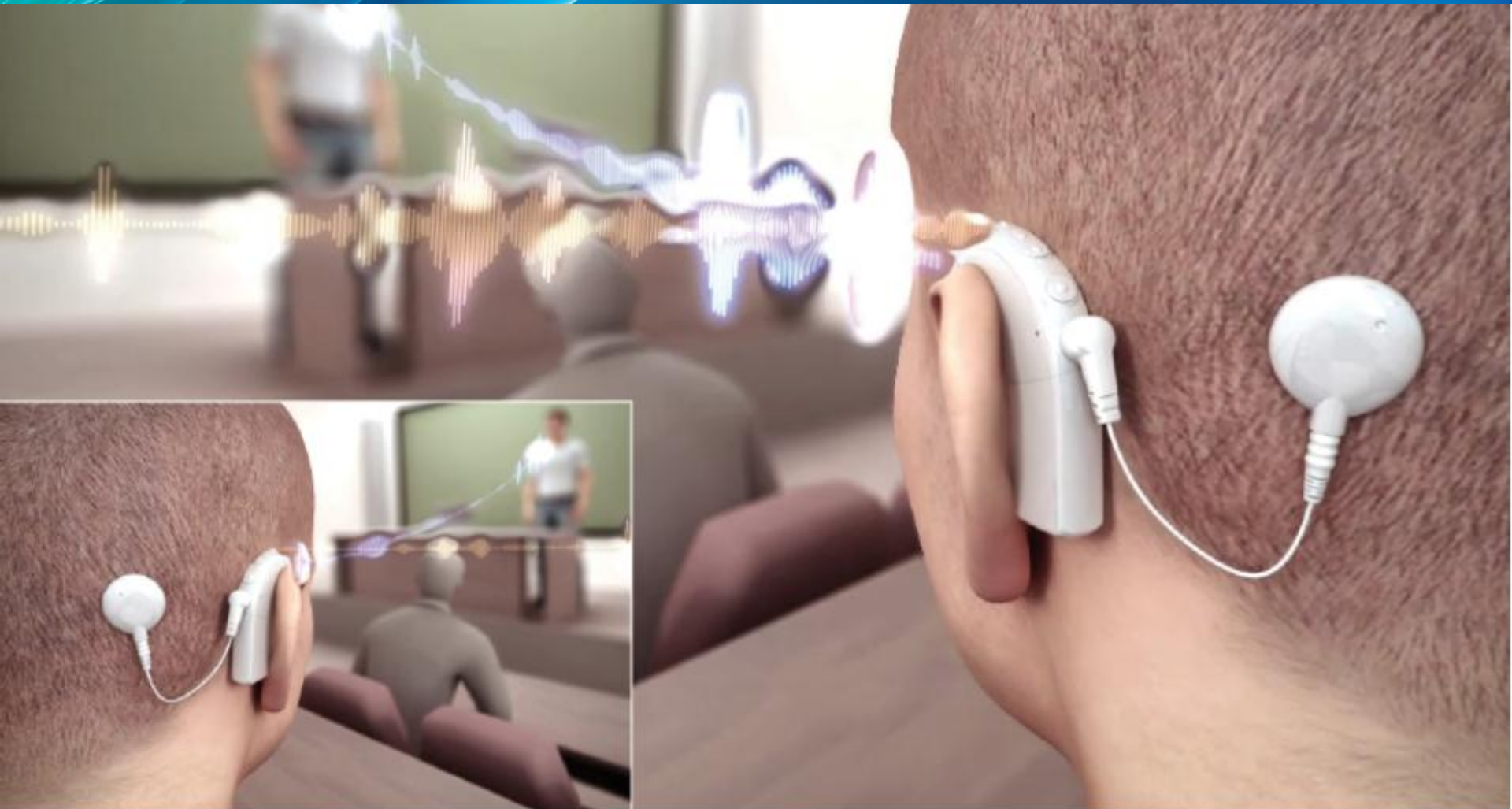


AutoSound™
automatically adapts
to unique listening environments



HiRes Optima™
the all-new strategy for **optimized performance** with better battery life

UltraZoom





hearing in real world scenarios
ClearVoice + UltraZoom improve hearing
performance in noise



55% improvement
in speech understanding in noise

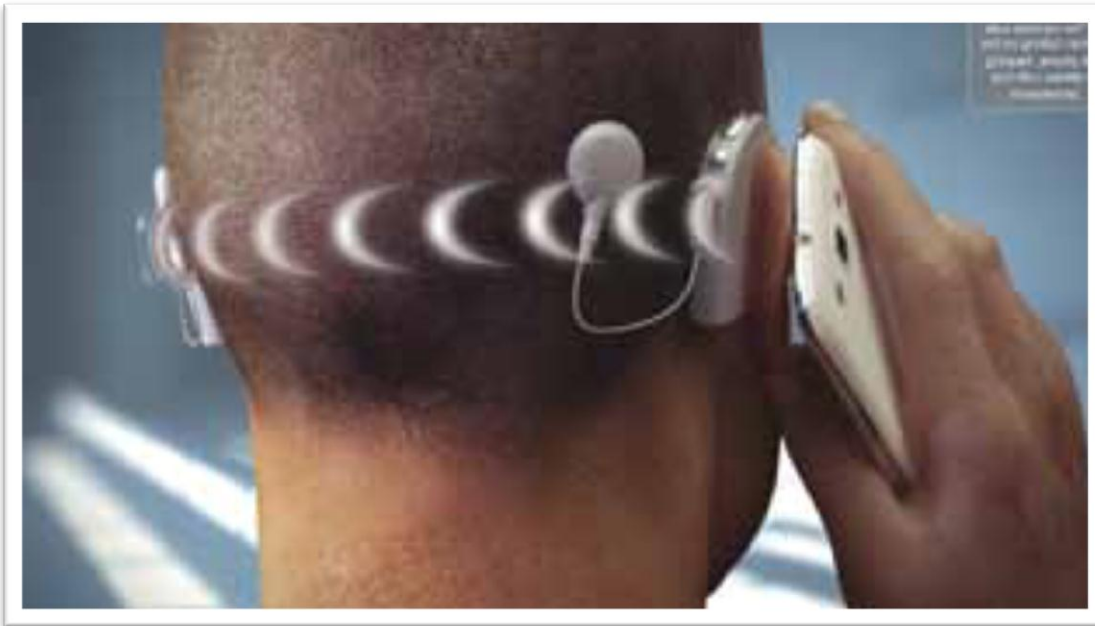
Study: Buechner et al. 2013¹
Sound Processing: AB ClearVoice + Phonak UltraZoom
Test Condition: Oldenburger sentences in speech-shaped noise
Improvement in speech understanding: 6.1 dB \approx 55%
Conversion Factor: 1 dB \approx 9%

best option for speech from the front

small size **big performance**

Naída CI Q70
By Advanced Bionics

DuoPhone



- Effortlessly stream phone calls to both ears
- Bilateral feature

ZoomControl



- Focus on sound coming from left or right
- Bilateral feature

get connected

to the people and media you love with **instant access** to consumer electronics



watch a movie on television

enjoy funny online videos

listen to your favorite music

talk to family on the phone

Wireless Connectivity



Phonak ComPilot
wireless streaming accessory

the **AccessLine™**
the ultimate in wireless connectivity



AB myPilot
instant control and status information



Phonak RemoteMic
the wireless solution for noisy places



Phonak TVLink
the ideal TV experience



PHONAK

| Partners for Better Hearing

Neptune Sound Processor

World's only swimmable freestyle™ sound processor



Advanced Bionics

AQUACASE

By Advanced Bionics

Any Adventure, *Any Environment*



rivers & lakes



ocean



pools & spas



rain & humidity



bath & showers



mud & dirt



perspiration

Questions?

