



Providing Children Access to Natural Hearing through Bilateral Cochlear Implants

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Who is AB?

Advanced Bionics[®] provides cochlear implants to children and adults around the world. We are a lifetime partner to cochlear implant recipients, families and professionals.





Hearing loss is the #1 birth defect in the U.S.



33 babies a day are born with a hearing loss.



Impact of Hearing Loss

A severe to profound hearing loss will impact a child's oral speech, language and reading skills.





Hearing Needs of Children

By age 3, a child will need to hear approximately 30,000 words each day to develop the language needed for success in school*.



*Hart B, Risley TR (1995) *Meaningful Differences in Everyday Experience of Young American Children*.



Access to sound through cochlear implants
can provide opportunities.....





Experience Life in Surround Sound



Bilateral Hearing



Benefits*:

- **Better Hearing in Noisy Environments**
- **Better Localization of Sound**
- **Hear more, further!** A voice barely heard at 10 feet with one ear can be heard up to 40 feet away with two ears.
- **Greater Ease of Listening:** Listening with only one ear is physically tiring and stressful.

*Kochkin S, et al. Binaural Advantage: Evidence from Subjective Benefit and Customer Satisfaction Data. *Hearing Review supp*, April, 1997

Bilateral Hearing



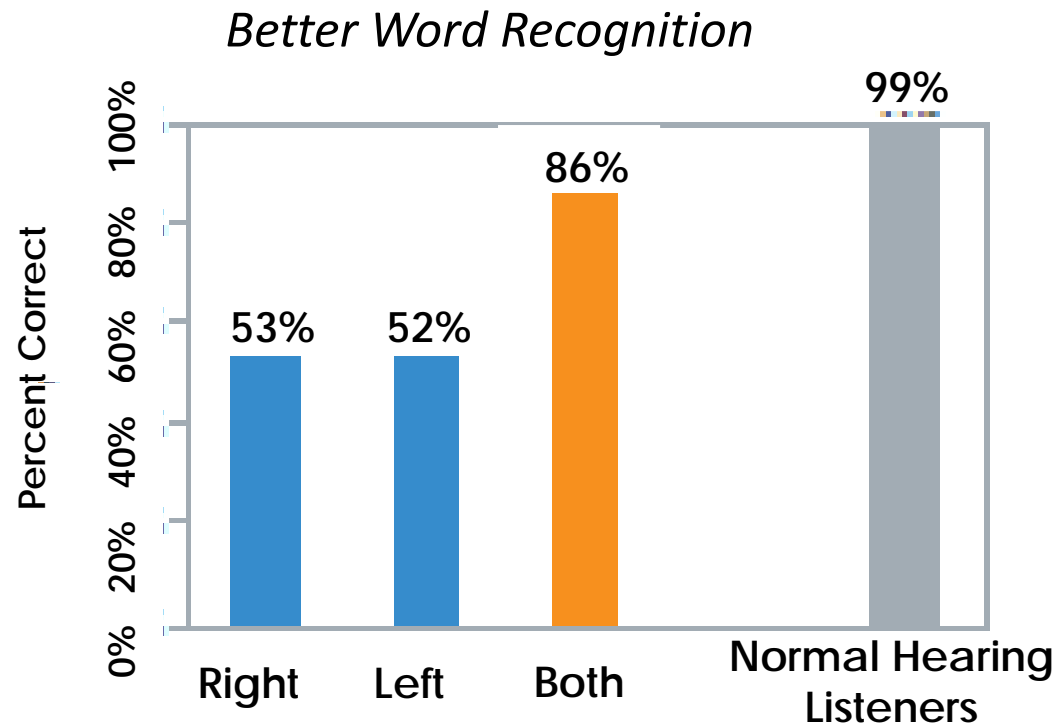
Benefits*:

- **Situational Hearing Advantages:** Eliminate the need to optimally position your “good ear” to capture sound. Sit wherever you like!
- **Improved Sound Quality:** Potential to experience fuller, richer, and more natural sound.
- **Uninterrupted Hearing:** Your second implant can always serve as your backup

*Kochkin S, et al. Binaural Advantage: Evidence from Subjective Benefit and Customer Satisfaction Data. *Hearing Review supp*, April, 1997



Research Supports Bilateral...



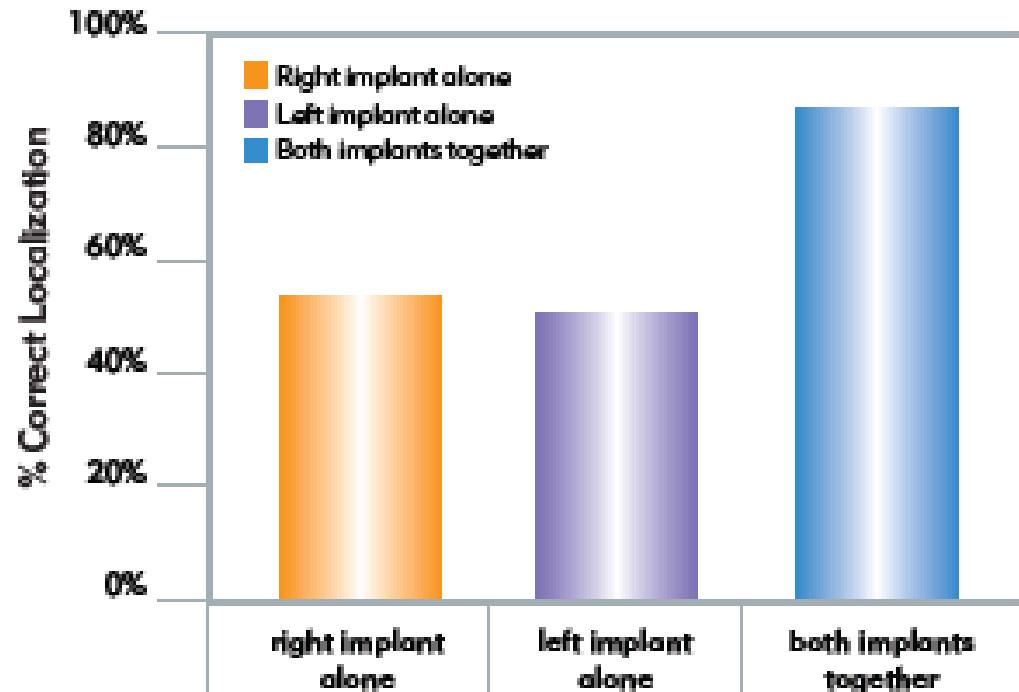
Mean word recognition scores for 15 adults implanted with two Harmony implants at the same time. All subjects heard better with both implants together than with each implant alone.

**Koch DB, Soli SD, Downing M, Osberger MJ. Simultaneous bilateral cochlear implantation: prospective study in adults. Presentation at the American Neurotology Society, San Diego, California, 24 April 2007.*



Research Supports Bilateral...

BE SAFE



Left vs. right localization accuracy for the right implant alone, left implant alone, and both implants together. Localization is improved significantly when using two implants.¹



"We did the second cochlear implant because Brooke had so much success with the first one. Her speech and sentence structure has improved. Her appreciation for music is unbelievable. It's like night and day."

—**Pamela and Edward Garnett**, *parents of Brooke, Implanted at age 3; bilaterally implanted at age 7*





Who may be a candidate..

Are the candidacy guidelines different for bilateral cochlear implant recipients?





Who is a Candidate for a Cochlear Implant?

Children (12 months - 2 years)

- Profound, bilateral sensorineural deafness (≥ 90 dB HL)
- Little or no benefit from hearing aids

Children (2 years - 17 years)

- Severe to Profound, bilateral sensorineural deafness
- Little or no benefit from hearing aids





Common questions...

My child has older technology will a second cochlear implant work with the first one?
How is that possible with two different processors?





Common questions...

Should I wait for technology to improve before getting a second cochlear implant for my child?





Common questions...

- Will insurance cover a second implant?





Can CI Technology Support Bilateral Cochlear Implants?

- HiResolution[®] Sound
- AutoSound[™]
- T-Mic[®]
- Intellinlink[™]





The Harmony™ Advantage AutoSound®

- Hear from a whisper to a shout, without volume and program changes...
- Like the normal hearing ear, AutoSound automatically adapts to your listening environment
- Quiet library... noisy restaurant... circle time at preschool... racetrack... everywhere you go!





The Harmony™ Advantage HiResolution™ Sound

- HiRes Sound offers 5X the resolution of other systems
- Why is this important?
 - Clearer speech – hear the soft sounds that make speech easier to understand
 - Music enjoyment
 - Incidental learning in children! Children learn language and speech from all of the sounds in their environment.



The Harmony™ Advantage HiResolution™ Sound

Conventional systems require the listener to focus on a fixed portion of the picture rather than the detail and color of the surrounding environment.





The Harmony™ Advantage

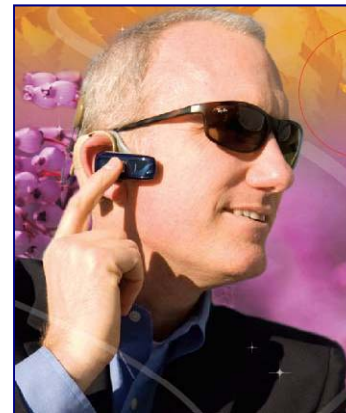
The T-Mic®





T-Mic[®]

Hear...Naturally



Wireless Connectivity



The Harmony™ Advantage IntelliLink™

LED Indicator

IntelliLink™ Implant ID Safety Feature

- A feature to assure that the correct processor and implant are being connected
- A rapidly blinking **red light** indicates:
 - Wrong processor
 - In rare instances, that there is a processor error condition





What about Rehabilitation with 2 Cochlear Implants??





Common questions...

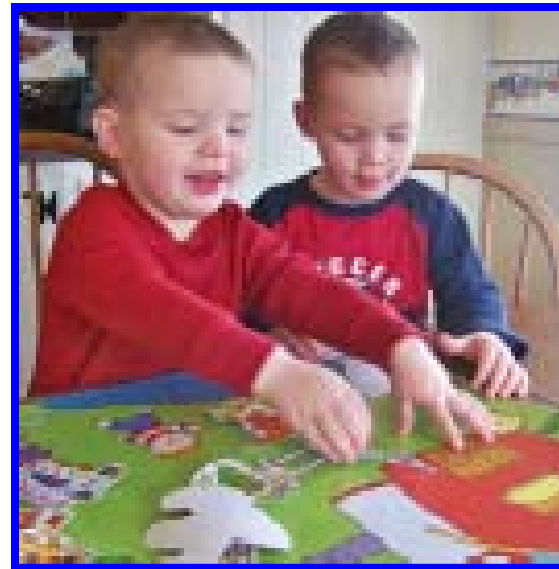
Is auditory therapy different with one versus two cochlear implants?





Common questions...

What might a therapy session with bilateral cochlear implants entail?





Common questions...

Are the responses faster with two?





Common questions...

Does my child need to wear both implants all the time after it is activated?





THE Listening Room™ for Kids

- A one of a kind website that offers families and professionals a surplus of interactive activities to support the development of speech, language and listening skills in children with hearing loss at any age
- Developed by Dave Sindrey, MCISc., Cert AVT® and Advanced Bionics





Tools for Schools

- A resource for parents, therapists and educators who support children with cochlear implants.
- This resource provides tools to help a child be successful in the classroom
 - Product Information
 - Product Troubleshooting
 - Educational management
 - OnLine Education Courses
 - Workshops
 - On-call and online support
 - 866-844-HEAR
 - ToolsForSchools@advancedbionics.com



Support Online



The Bionic Ear Association

- BEA Support Center
 - **866-844-HEAR**
 - Hear@AdvancedBionics.com
- Hearing Journey Online Community
 - www.HearingJourney.com
- Listening Room- Free Rehab and Related Support for Recipients, Families and Professionals
- Connect with a Mentor Online





Wrap up...

- There are significant benefits to bilateral hearing with cochlear implants
- Harmony™ Advantages
 - AutoSound™
 - HiResolution®
 - T-Mic®
 - Intellinlink™
- Rehabilitation should follow a similar approach regardless of whether a child is using one versus two cochlear implants
- The Listening Room® offers FREE resources to support listening and language development
- Join our Online Series with Don Goldberg, PhD
 - Register at www.bionicear.com



II HARMONY™

HiResolution® Bionic Ear System

*Where can you find additional
information?*

Visit www.BionicEar.com