

Cochlear Implant Comparison



A hearing implant can wonderfully affect how you live your life, the way you learn and the way you engage with others. Deciding which hearing implant is right for yourself, a loved one or your child is an important decision. In fact, it's life changing.

In order to make an informed decision, you will want to understand your options. The information provided on these pages is available to help educate you about the features and benefits of different hearing implants.

Please understand that the information can change at any time; we will do our best to keep the information accurate and up-to-date.

COMPANY INFORMATION

COMPANY	COCHLEAR	ADVANCED BIONICS	MED-EL	WHY IT MATTERS
Year and location established	1981, Australia	1993, California	1977, Austria	Years of experience and proven track record provide additional peace-of-mind.
United States Headquarters	Denver, Colorado	Valencia, California	Durham, North Carolina	It is helpful to know that you will have local support, even if the company's corporate headquarters are outside of the United States.
Recipients Worldwide	400,000+	30,000+ ¹	Not reported	You can have added peace-of-mind knowing that there are others who have been where you are and trust the technology.
Upgrades for all cochlear implants	Yes	Yes	Yes	Assurance that you will have the option to upgrade to the latest sound processor technology as it becomes available without the need for additional surgeries.
Research and Development Efforts	15.9% of revenue ²	6.4% of sales ³	Not reported	A commitment to Research and Development reinvestment provides you with added reassurance that innovative solutions will continue.

Please Note:

Unless stated in the comment field, data is taken from the product specification on each company's website. All attempts have been made to ensure accuracy and currency of data. However if using the data to support preparation of official documentation, it is recommended to seek the latest information from the manufacturer. Information reflects products approved for the United States only.

Considerations When Choosing a Cochlear Implant

SERVICE AND SUPPORT

COMPANY	COCHLEAR	ADVANCED BIONICS	MED-EL	WHY IT MATTERS
New System Warranty	External Sound Processor: 5 Years Internal Implant: 10 Years	External Sound Processor: 5 Years Internal Implant: 10 Years	External Sound Processor: 5 Years Internal Implant: 10 Years	Only Cochlear offers the most comprehensive "No Questions Asked" warranty so you can rest easy when things happen.
Customer Service Hours	Phone: M-F: 6AM - 6PM MST, Saturday: 8AM - 12PM Email, Chat, Spanish-speaking customer service support	Phone: M-F 5AM - 5PM PST Email, Chat	Phone: M-F 9AM - 8:30PM EST, Email	You'll have confidence knowing there will be someone to help you when you have questions - part of Cochlear's commitment to help you "Hear now. And always".
Insurance Reimbursement Support	Yes	Yes	Yes	Provides confidence that you'll have support and help navigating the insurance process.
Recipient Support Group	Yes: Cochlear Community, local Chapter meetings - largest group of its kind	Yes: Bionic Ear Association	Yes: HearPeers	Reassurance that you will have access to many people who have gone through the same thing and can share their experiences with you.
Comprehensive Rehabilitation Resources	Yes	Yes	Yes	Confidence in comprehensive rehabilitation support for aftercare and throughout your lifetime.
Secure Online Personalized Website	Yes: myCochlear.com	No	No	24/7 access to support, personalized resources, warranty and service status and empowers you to have more control of your hearing when you need it.
Recipient Support Apps	Yes	Yes	Yes	Resources in the palms of your hands. Gives you comfort knowing that you have access to resources no matter where you are.

Considerations When Choosing a Sound Processor

SOUND PROCESSING TECHNOLOGY

COMPANY	COCHLEAR	ADVANCED BIONICS	MED-EL	WHY IT MATTERS
Sound Processor	Cochlear™ Nucleus® 6 	Naida CI Q70 	Sonnet 	
Sound Processor Options	Nucleus 6 Sound Processor with Hybrid™ Hearing 	Neptune 	Rondo 	Flexibility to choose the sound processor option based on your needs and preferences.
Sound Input Technology	SmartSound® iQ	ClearVoice™ and Autosound	Automatic Sound Management 2.0	Input processing provides the best signal to the implant, providing an improved hearing performance.
Automatic Scene Classifier	Yes (SCAN)	No	No	Automatic Scene Classifier makes it easier to hear in noisy situations by automatically choosing the environment and optimizing the sound without the need for manual adjustments, just as natural hearing does.
Input Dynamic Range (IDR):	Up to 75dB ⁴	Up to 80dB ⁵	Up to 75dB ⁶	IDR tells you the range between the softest and loudest sounds that are captured by the sound processor.
Microphone Technology	Dual Microphones	Dual Microphones	Dual Microphones	Dual microphone technology is important for identifying sound location/origination and minimizing background noise.
Data Logging	Yes	Yes	Yes	Data logging records how the sound processor is being used in order to provide your audiologist with key information to help provide your best hearing experience.
Ability to Amplify Sound Acoustically	Yes*	Yes**	Yes**	Ability to use your low-frequency hearing with acoustic amplification may enhance your overall hearing experience.
Hybrid Mode Programming <i>(Using both acoustic and electrical stimulation in one device)</i>	Yes	Yes**	Yes**	Being able to utilize acoustic amplification for your existing low-frequency hearing and electric stimulation for your missing high-frequency hearing may lead to a better hearing experience.

⁴FDA approved only for use with the Hybrid L24 Implant and adults 18 and older.
⁵Not FDA approved.

Considerations When Choosing a Sound Processor

SOUND PROCESSOR FEATURES

COMPANY	COCHLEAR	ADVANCED BIONICS	MED-EL	WHY IT MATTERS
Size <i>(smallest configuration (Height x Width x Depth in millimeters)</i>	Nucleus 6 CP920 with Compact: 39.1 x 9 x 47.7	Naida with PowerCel 110: 49 x 9 x 19*	Sonnet with zinc-air battery: 56.7 x 9.3 x 37.4	The size of the sound processor can impact how visible and comfortable it is on your ear.
Sound Processor Color Options	5	12	6	You can personalize your sound processor based on your preference and lifestyle.
Sound Processor Cover Options	12	None	15	You can change your look every day to suit your mood.
Ability to Use in Water - IP57	Yes	Yes	No	Cochlear's special nano-coating provides extra protection against dust and debris.
Ability to Use Underwater - IP68	Yes**	Yes†	Yes††	Being able to hear while playing in water is important to many people, particularly for parents who want their child to be able to play in the water like everyone else.
Retention Options	Snugfit™ Mic Locks	Kinder Clip, Bionic Buddy Critter Clip, Snuggie™	Sports Headband	Helps keep your sound processor securely in place, especially for active adults and children.
Sound Processor Alert Lights	Yes	Yes	Yes	Alert lights on the sound processor let you know if everything is working as it should be, which is particularly beneficial for parents.
Pediatric-Friendly Wearing Options	Litewear	PowerCel™ Slim, PowerCel Plus, Naida CI Clip	BabyBTE, Children's Battery Pack, Mini Battery Pack, XS, Battery Pack	Having a choice of wearing options for your child's sound processor provides you with additional peace of mind and keeps the sound processor off of little ears for increased comfort.
FM Compatible	Yes	Yes	Yes	FM systems are among the most common Hearing Assistive Technology used with children, especially in school environments.
Accessory Customization Options With New Systems	4	4	0	Allows you to get the most out of your new system and save money.

* Naida depth dimensions are without the earhook; Cochlear and MED-EL width dimensions include the earhook.

** When used with the Cochlear Nucleus Aqua+ and the Aqua Accessory.

† Naida is IP68 when used with the Aqua Case. (Neptune is also IP68).

†† Rondo is IP68 when used with WaterWear.

Considerations When Choosing a Sound Processor

SOUND PROCESSOR FEATURES

COMPANY	COCHLEAR	ADVANCED BIONICS	MED-EL	WHY IT MATTERS
Wireless Connectivity Available	Yes	Yes	No	Having the ability to connect to audio devices wirelessly makes hearing more convenient and easier.
Wireless Technology	2.4 GHz	Near Field Magnetic Induction (<i>NFM</i>)	2.4 GHz*	Wireless makes listening easier by transmitting or streaming sound directly into your sound processor. Bluetooth technology is enabled by 2.4 GHz.
Neck-Loop Needed for Wireless Technology	No	Yes	Yes	Connecting wirelessly without the need for anything around your neck is more comfortable and convenient.
Wireless Accessories	Remote Assistant, Remote Control, Mini Mic, Phone Clip, TV Streamer	ComPilot, TVLink II, RemoteMic	Not disclosed	Having a range of wireless accessories can complement your lifestyle and provide added flexibility to hear in certain environments.
Ability to Use with the Telephone	Yes: built-in telecoil	Yes: built-in telecoil	Yes: built-in telecoil	Use the telephone to easily connect with family and friends.
Remote Control	Yes: <i>(one included standard with new system)</i>	Yes	Yes: <i>(one included standard with new system)</i>	Remote control technology allows you to manage your hearing in a discrete way. Parents find the remote controls especially beneficial to help manage their child's hearing.
Advanced Remote Assistant	Yes	No	No	Managing your hearing with a full-featured Remote Assistant helps to put troubleshooting at your fingertips.
Simultaneous Bilateral Control	Yes	Yes	Yes	You will enjoy the convenience of controlling both your left and right sound processors at the same time instead of individually.
Rechargeable Battery Life	Compact: up to 18 hours** Standard: up to 30 hours**	PowerCel: 110: up to 17 hours** 170: up to 27 hours** 230: up to 36 hours**	NA	A longer battery life provides confidence that you won't go without hearing.
Disposable Battery Life	Disposable: Up to 60 hours**	Disposable: up to 56 hours** AAA: 183 hours**	Disposable: Up to 60 hours**	A longer battery life provides confidence that you won't go without hearing.

* Wireless ready for 2.4 GHz applications

**Battery life may vary.

Considerations When Choosing an Implant

IMPLANT

COMPANY	COCHLEAR	ADVANCED BIONICS	MED-EL	WHY IT MATTERS
Implant	CI24RE	HiRes 90K	Synchrony	
Reliability Record	99.1% at 11 years ⁷	98.3% at 7 years ⁸	99% at 5 years ⁹	Provides peace-of-mind and confidence. Independent data confirms that Cochlear™ Nucleus® Implants are designed to work over a lifetime without the need for additional surgeries.
MRI Compatible	Yes: 1.5 Tesla*	Yes: 1.5 Tesla*	Yes: 3.0 Tesla	MRIs are an important medical tool, and you want reassurance you can get an MRI without concern.
Removable Magnet for MRI	Yes	Yes	Yes	Removing the magnet can help provide a clearer image if MRI is needed for the head.
Number of Channels	22 Channels (22 electrodes)	16 Channels (16 electrodes)	12 Channels (19-24 electrodes - Up to 12 pairs)	A higher number of channels could be beneficial with programming problem areas of the cochlea giving you a better hearing performance.
Choice of Electrodes	5 Electrodes	3 Electrodes	5 Electrodes	The cochlea comes in all different shapes and sizes so providing a selection can ensure that your surgeon can choose the best one based on your specific needs.
Hybrid Implant	Yes	No	No	Provides your surgeon with the only FDA-approved implant choice that is designed to use your low-frequency hearing while providing you access to the high-frequency sounds you may be missing.
Stimulation Rate (pulses per second)	32,000 pps	83,000 pps	50,704 pps	Just as some cars are built to go fast but must adhere to a speed limit, the auditory nerve can handle only so much information at once. Cochlear designs our implants with the goal to exceed the auditory nerve's speed limit, but not so much that stimulation is wasted so you get the most efficient and effective stimulation as possible to the hearing nerve.
Longest Implant Insertion Depth	450° ¹⁰	420° ¹¹	720° ¹²	Optimal hearing performance is reached when there is electrical stimulation in the Hearing Zone, which is located approximately 400 to 450 degrees into the cochlea. ^{13,14} Deeper insertion beyond the Hearing Zone could result in trauma to the cochlea and possibly pitch confusion. ¹⁵

* With magnet removed

References

¹ http://www.advancedbionics.com/content/dam/ab/Global/en_ce/documents/candidate/AB_Reliability_Report.pdf
² Cochlear Annual Report. [Internet: pdf document]. Cochlear Limited; 2014 September. Available from www.Cochlear.com.

³ Sonova Annual Report 2014/15. [Internet: pdf document]. Sonova 2015 May. Available from www.sonova.com.

⁴ Data on file.

⁵ https://www.advancedbionics.com/content/dam/ab/Global/en_ce/documents/libraries/Professional%20Library/AB%20Technical%20Reports/Sound%20Processing/HiResolution_Sound_Processing_article.pdf

⁶ <http://www.medel.com/us/automatic-sound-management/>

⁷ Cochlear Ltd. Cochlear™ Nucleus® Reliability Report, vol.13, 2015 February,[PDF-Internet] [cited 2015 April 22]. Available from: <http://www.Cochlear.com/wps/wcm/connect/intl/home/discover/cochlear-implants/nucleus-6/nucleus-implant-portfolio/reliability-report>.

⁸ Advanced Bionics. Advanced Bionics 2014 Cochlear Implant Device Reliability Report, HiRes 90K Supplier A Post-2005 modifications, [PDF-Internet] [as of May 2, 2014 cited 2014 Dec 2]. 028-M476-03. Available from: http://www.advancedbionics.com/content/dam/ab/Global/en_ce/documents/candidate/AB_Reliability_Report.pdf

⁹ [Image-Internet] MED-EL2015 February. [cited 2015 April 21]. Available from: www.medel.com/us/reliability-reporting

¹⁰ [Image-Internet][cited 2015 April 27] Available from: http://products.cochlearamericas.com/sites/default/files/422files/popup_ci422_hearing_zone4.html

¹¹ https://www.advancedbionics.com/content/dam/ab/Global/en_ce/documents/professional/HiFocusMid-Scala_Electrode_Brochure.pdf

¹² http://www.medel.com/data/editor/file/Bibliography_December2010.pdf

¹³ Stakhovskaya, O., Sridhar, D., Bonham, B. H., Leake, P. A. Frequency map for the human cochlear spiral ganglion: implications for cochlear implants. JARO, 2007. 8(2): p. 220-233.

¹⁴ Ariyasu, L., Galey, F. R., Hilsinger, R. J. R., Byl, F. M. Computer-generated three-dimensional reconstruction of the cochlea. Otolaryngology- Head and Neck Surg., 1989. 100(2): p. 87.

¹⁵ Boyd, P. J., Potential Benefits From Deeply Inserted Cochlear Implant Electrodes. Ear and Hearing, 2011. 32(4): p. 411-427.

www.Cochlear.com/US

Cochlear Americas

13059 East Peakview Avenue
Centennial, CO 80111 USA
Telephone: 1 303 790 9010
Support: 1 800 483 3123

Cochlear Canada Inc.

2500-120 Adelaide Street West
Toronto, ON M5H 1T1 Canada
Telephone: 1 416 972 5082
Fax: 1 416 972 5083

©Cochlear Limited 2015. All rights reserved. Hear Now And Always and other trademarks and registered trademarks are the property of Cochlear Limited. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Hear now. And always

