MCICE
Maryland Cochlear Implant Center of Excellence

March 2019

Sound Advice

"come hear about us"

Welcome to the inaugural edition of "Sound Advice," a free newsletter distributed by the **Maryland Cochlear Implant Center of Excellence** (MCICE, pronounced "em-cise"). We hope to provide cochlear implant recipients and their families with the most up-to-date news about research on cochlear implants, new features on the market, and how to get the greatest benefit from an implant. We are a group of researchers, educators, surgeons, and clinical service providers located at the University of Maryland-Baltimore School of Medicine, the University of Maryland Medical Center, and the University of Maryland-College Park. Our goal is to provide the nation with evidence-based, unbiased information that can help you decide if a cochlear implant is a good choice for you or a loved one, and to help you keep current with the state of knowledge in the field. Please help us meet this mission by passing this newsletter along to those who might be interested!

Ask An Expert

"Hi. I am 75 years old, and have had a cochlear implant in my right ear for 10 years. I still use a hearing aid in my left ear, but it doesn't work as well as it used to, and I mostly rely on my implant. Would I be a candidate for an implant on the left? How would it help me? Am I too old? Would insurance pay for it? Thanks!"

- Sadie Smith (Lincoln, Nebraska)

Dear Sadie,
These are all very good questions. From what you've shared, it does sound like you would be a candidate for a second implant. The continued use of a hearing aid in the left ear sets a good foundation for implant use in that ear. Although bimodal listening (use of a hearing aid and in conjunction with a cochlear implant) is a great way to hear, once the hearing aid seems to provide no additional benefit, the move to bilateral implantation is recommended. The use of bilateral implants often provides improved speech understanding, reduced listening effort in communication, improved sound detection from the second side, and overall improved audibility. With regards to your last two questions: with the appropriate documentation, insurance will likely cover the second implant – it never hurts to try! Finally, there is no upper age-limit for implantation. As long as your general health is good and the procedure (under general anesthesia) is not considered too much of a risk, you are certainly eligible for the implant. Best of luck in your journey to bilateral!

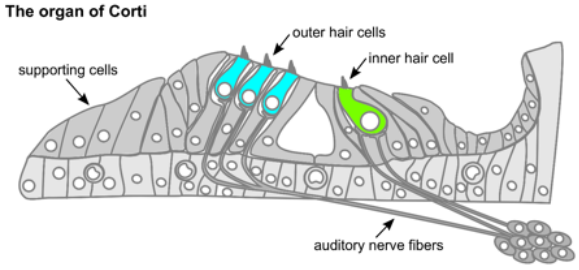
- Nicole Nguyen, Au.D., CISC
Maryland Cochlear Implant Center of Excellence (MCICE)

Do you have a question for our experts?
Send it to ****

Are you IN or are you OUT?

Recent advances in understanding cochlear sensory cell development.

Our ability to hear requires the synchronized function of many parts of the inner ear, which is the organ responsible for both hearing and balance. Of particular importance are the cochlear hair cells, which are located in a structure called the organ of Corti and are responsible for transferring sound signals to the brain for interpretation. The cochlear hair cells are split into two groups; first are the inner hair cells, which are the primary sound sensors of the cochlea, and second are the outer hair cells, which help us to hear different frequencies and intensities of sound with greater sensitivity. The outer hair cells are particularly sensitive to noise damage and the aging process, and it is thought that the majority of moderate sensorineural hearing loss can be attributed to loss of these cells. This makes the outer hair cells a prominent target for researchers trying to develop cell replacement therapies for treating hearing loss. Recently, two articles published in the journal Nature reported significant advances in our understanding of how the outer hair cells develop in the cochlea. Both of these studies identified transcription factors necessary for the formation and function of the outer hair cells. Transcription factors are proteins that can turn on and off genes, and many have been identified for their roles in guiding cells along a developmental path. In one of these articles, researchers at the University of Maryland School of Medicine identified a new role for the Helios transcription factor in outer hair cells. When Helios could not switch on and off its target genes, the outer hair cells did not function correctly, resulting in hearing loss and eventual outer hair cell death. Additionally, they showed that this transcription factor was capable of guiding other cells in the cochlea towards an outer hair cell identity. This discovery has shed new light on the development of these specialized cells, and has moved researchers one step closer to developing effective outer hair cell replacement therapies to treat hearing loss.



Developments in cochlear implant technology provide easier access to the FUN sounds of life.

In the past year, significant changes have occurred in the technologies available to cochlear implant users. While implant manufacturers work diligently to improve how implants capture, process, and deliver important speech information to the user, they have also made strides in making device connectivity more seamless and accessible. Now, CI users are able to easily listen to their favorite singer, watch their favorite movie, and speak with friends and family over the telephone in ways they never have – adding more FUN to what they hear.

Advanced Bionics

Advanced Bionics Naida Q90 recipients can easily stream from any Bluetooth enabled device to both ears (with a compatible hearing aid or second cochlear implant) via the Roger Pen. Even better, the Pen can be used as a remote microphone in challenging listening situations, such as noisy restaurants or large conferences/meetings. The Roger Pen's multifunctionality allows for easy transitions to address different needs.

For a simpler, more affordable, way to connect, patients can attach the Easy Call accessory to their Bluetooth enabled cell phone. This accessory streams calls directly to Naida sound processors and compatible hearing aids.

Cochlear Corporation

Cochlear Nucleus 7 (N7) sound processors are now able to connect directly to Apple products for seamless streaming of phone calls, videos, games, and more. The "made for iPhone" (or MFi) capability of the N7 operates through the basic functions of the Apple products and does not require a specific app or intermediary device. When using an Apple product, the CI user can quickly make adjustments to their processor settings from the home screen of their iPhone or iPad – users can adjust volume or change their program (microphone setting) based on their listening environment with just a few taps on their device.

Android users are not left out of the FUN either. Cochlear recently released the Nucleus Smart app® for N7 users with Android products (the app is also available for iPhone). The Smart app® allows for remote control of the sound processor, while also assisting with device troubleshooting when the need arises. The app is so Smart, it can help the user find their lost sound processor!

Med-El

Med-El Sonnet 2 recipients can access cell phone calls easily via the Roger Pen (described above) or through a direct connection using the audio cable. The Direct Audio Input (DAI) cable provides streaming from any device with a traditional headphone jack.

Another option for audio streaming, including phone calls and television, is a Bluetooth neckloop. The neckloop is paired to a Bluetooth compatible device or TV streamer and streams the sound to the Sonnet 2 processor via the processor's integrated telecoil.

COME HEAR
MCICE COCHLEAR IMPLANT INTENSIVE PROGRAM

Summer Intensive Program

The MCICE Summer CI Intensive Program is geared for children ages 3 to 6 who are cochlear implant recipients or are on the path to a cochlear implant. The program uses a literacy-based, oral language focused curriculum to provide intensive auditory therapy interwoven through fun activities in a classroom setting. This two-week experience provides the opportunity for continued development of speech, language, and auditory skills during summer break from school as well as new social opportunities with their peers.

July 8- 19, 2109

To register, or for more information:
(301) 405 4218 or **mcice@umd.edu**

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