

Mercy 



Cochlear Implants: Taking the Next Step on Your Hearing Journey

Mercy Cochlear Implant Program

Welcome to Mercy Hospital of St. Louis, an institution that provides leading-edge care and advanced expertise that only a medical center can provide. Mercy Hospital of St. Louis has been providing cochlear implant evaluations, programming and support since 2007, and we strongly believe in a team-based approach. Our audiologists are specially trained healthcare professionals with master's or doctorate degrees who provide patient-centered, evidence-based treatment for hearing loss. We work closely with your neurotologist to devise your optimal treatment plan for cochlear implantation. It is our privilege to be able to provide care for your hearing concerns. The following information discusses the step-by-step process involved with cochlear implantation. We are happy to answer any questions you may have and look forward to working with you in the future. Please know we have 3 locations for your convenience, including Mercy Hospital Audiology in St. Louis, Mercy Clinic Audiology in O'Fallon and Mercy Clinic Audiology South.

Our Team



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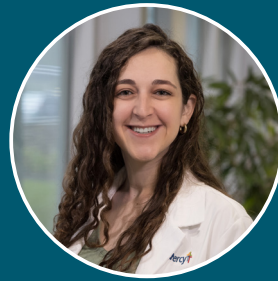
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ENJOY BETTER HEARING & CLEARER SOUND FOR LIFE

Those with untreated hearing loss don't just miss out on sounds; they miss out on life. Hearing loss makes it more difficult to follow conversations, enjoy music, talk on the phone and do many of the other activities you once loved.

Now, you can rediscover what you've been missing. If you use hearing aids but still strain to hear, especially speech in noise, a cochlear implant may be the solution you've been looking for. Cochlear implants don't just help people hear better; they reconnect loved ones by improving communication through clearer sound.

Cochlear implants are not hearing aids. While hearing aids make sound louder, they don't always make sounds clearer. Cochlear implants can provide improved clarity to those suffering from severe to profound hearing loss.

You may be a cochlear implant candidate if...

- You benefit very little from traditional hearing aids.
- You have difficulty understanding speech.
- You have sensorineural hearing loss, meaning there is damage to the pathways from the inner ear to the brain.
- You understand the cochlear implant process and have reasonable expectations.
- You're willing to commit to the follow-up process.

Candidacy Determination/ Pre-Operative Steps

Cochlear implant candidates must complete:

1. Cochlear implant evaluation

- Complete hearing evaluation.
- Testing completed with appropriately fit hearing aids.
- These tests measure your ability to understand speech in both quiet and noisy conditions.

2. Surgical consultation

- If you meet the audiological criteria, the surgeon will have you obtain a CT and/or MRI to examine the anatomy of the middle and inner ear. This is needed to verify that the implant is the best treatment option for you.
- The surgeon will also require that you obtain a vaccination(s) to prevent meningitis, as cochlear implant users are at a slightly higher risk for meningitis.

3. Insurance approval

4. Device selection

- Once insurance approval is obtained, you will be contacted by the audiology department to schedule counseling regarding your device.

Cochlear Implant Basics

Cochlear implants involve two parts, an internal piece that is surgically implanted and an external piece that is worn behind the ear. The external device, called a sound processor, picks up the sound and transmits it to the internal device by a magnetic connection.

There are three manufacturers of cochlear implants available in the U.S.

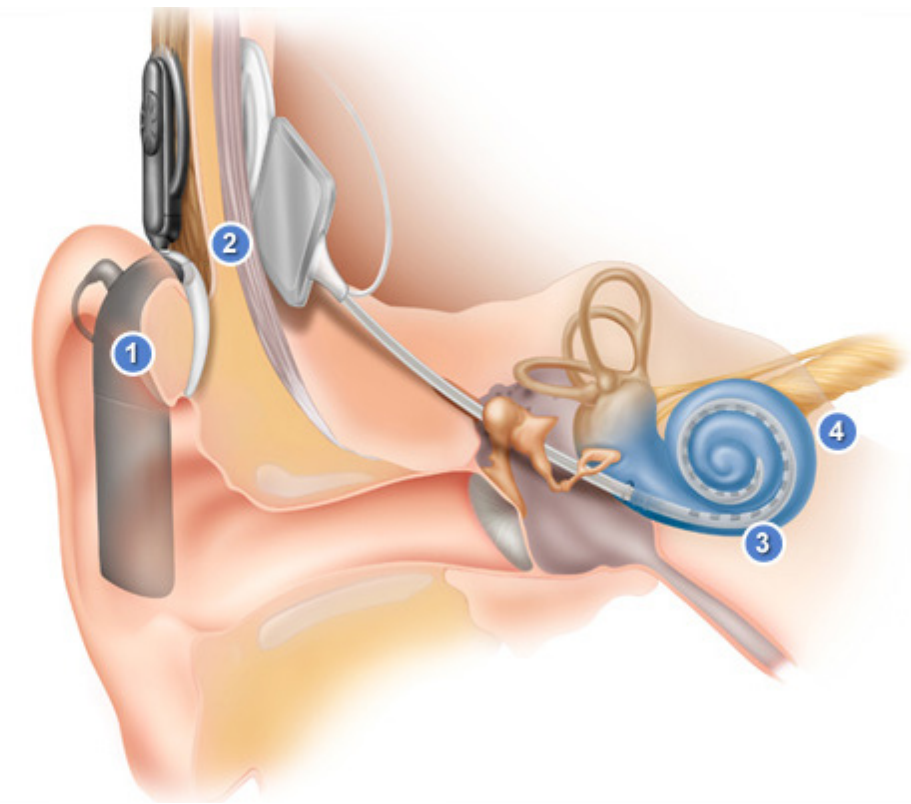
Cochlear Americas, www.cochlearamericas.com
MED-EL Corporation, www.medel.com
Advanced Bionics, www.advancedbionics.com

All are closely regulated by the FDA. Complete information regarding cochlear implants is available on the FDA's website (www.fda.gov).

The cochlear implant team will help you select the best option based on your hearing loss and lifestyle.



1. External speech processor captures sound and converts it to digital signals.
2. Processor sends digital signals to internal implant.
3. Internal implant turns signals into electrical energy, sending it to an array inside the cochlea.
4. Electrodes stimulate the hearing nerve, bypassing damaged hair cells and the brain perceives the signals; you hear sound.



Surgery

Surgery lasts approximately two to three hours and is typically done as an outpatient surgery. If you need to spend the night in the hospital, this would be determined by your surgeon. You will be contacted by a hospital representative the day before with instructions on where and when to arrive.

Following surgery, there will be a bandage over the surgical site. In addition, you will be sent home on antibiotics. Typically, patients report minimal pain within a few days following surgery.

You will return to the surgeon one to two weeks after surgery for a post-operative check of the surgical site.

Programming Your Cochlear Implant

Your implant will be activated approximately two to four weeks after surgery. This is similar to a standard hearing test, only administered through the implant. You will hear different sounds and be asked to tell us when you hear them. Based on your response, a program (called a map) will be created. This process will be completed several times over the first few weeks and months. After the first year, annual appointments are then necessary to ensure adequate function and mapping of the cochlear implant.

There are strategies available to program the device for our patients who cannot respond due to age and/or listening inexperience. The brain's response to a sound can be measured without participation from the patient. We can use these responses to estimate levels to create a map.

REHABILITATION: GETTING THE MOST OUT OF YOUR IMPLANT

Just as with any surgical procedure, you will need to undergo rehabilitation. Your brain will need to be retrained to understand sounds. Your audiologist and/or speech pathologist may provide you with listening tasks to improve your new hearing experience. Of course, you will have to continue to practice at home as well as utilize rehabilitation tools that can be tailored to your hearing needs.



Expectations for Adults

This is not a hearing aid. A cochlear implant does not amplify sound. It sends electrical signals to the hearing nerve.



It's Not a Quick Fix

The implant will not restore normal hearing. When the implant is first activated, most adults report that the sound quality is not clear (sometimes described as beeping or robotic). The sound quality most often improves over time as the brain adjusts to the electric stimulation.



Be Patient

The electric sounds transmitted to the inner ear are not representative of what the ear normally hears, but rather an approximation. You should expect to spend months, sometimes up to 18, practicing at home, learning to interpret these sounds.



Frequent Return Visits

It is crucial to return for follow-up programming as recommended by your audiologist. You will likely be seen for follow-up multiple times for the first three to six months. As you adjust to the implant, the visits become less frequent.



Background Noise

Understanding speech in the presence of background noise is a very challenging listening situation. Expect to hear better in these situations, but understand that you may continue to have difficulty.



TV and Telephone

Listening to the television and talking on the phone is often the most difficult for even the most experienced users. Accessories are available through each manufacturer that can enhance hearing in these situations.



Outcomes Vary

Understanding speech with the implant varies depending on the history of hearing loss. Patients with a long history of significant hearing loss and who have received little benefit from hearing aids may take longer to adjust to the sound as compared to patients with a short history of hearing loss and who have benefited from hearing aids until recently. Those patients with a longstanding history of hearing loss may only receive sound awareness from the implant and may not be able to understand speech. Please feel free to contact any of our team at any time with questions or concerns.



Expectations for Infants and Children

It is not a quick fix. The implant does not restore normal hearing, but it does provide your child access to sound at much softer levels than he/she was able to hear with hearing aids. Your child has to hear sounds over and over and learn what they mean. Before children with normal hearing learn to speak, they listen to sounds around them for at least a year, all day, every day. Speech and language development happens over time and requires that your child wear their cochlear implant in good working condition all day long.

Be Patient

It will take several months, possibly up to a year, before any progress is seen with the implant. Please be patient as progress varies from child to child. Listening skills and sound awareness will occur before speech develops. Children with normal hearing from birth develop at different rates, as is true with children who have received a cochlear implant.

Frequent Follow-Up Visits

It is crucial to return for follow-up programming as recommended by your audiologist. Your child will likely be seen for re-programming multiple times a month for the first three to six months, and then the visits become less frequent.

Intervention Programs for Children

Your child should already be in an early intervention program designed to work on speech and language development; however, if your child is not already receiving services, we can assist you in locating the program in your county. Intervention programs are crucial to help your child learn to hear with the implant and to provide feedback to the implant center about how your child is progressing. Missouri has a designated birth to three years intervention program. The public school system has programs for children over three.

Other Considerations/Warnings

WATER

Most external sound processors are water-resistant. Please consult your audiologist if you require a water-proof accessory for your device.

MRI

Cochlear Americas, MED-EL and Advanced Bionics now offer implants that are FDA approved for an MRI without removal of the internal magnet. After implantation, it is advised that you check with your surgeon/audiologist prior to any MRI scans, as there are recommended precautions.

FUTURE OUT-OF-POCKET COSTS

Cochlear implants are man-made devices. Just like any electronic device, the external parts may break down over time and need repair or replacement. Each company provides a limited five-year warranty on the external components that come with your initial surgery kit. Replacement parts can vary in price from hundreds to even thousands of dollars and are provided by the cochlear implant manufacturer. Out-of-warranty replacement parts can be billed to insurance, but depending on your plan, you may be responsible for all or part of the cost.

Unlike a hearing aid, with a cochlear implant, all follow-up programming visits will be billed to your insurance. The billed amount varies depending on the type of visit. You may receive a bill for some of the programming costs depending on your insurance.