

Rehabilitation

MED⁹EL

Smart Tips for Cochlear Implant Users

hearLIFE

»It is a miracle. After so many years I was able to use the phone again and hear my brother's voice in Australia. Furthermore, I now feel much more confident in dealing with other people, and I enjoy all the sounds that I hear.«

Leopoldine, MED-EL recipient

»My world has truly become richer. Richer because I am able to experience the world as it is—a world full of sounds. Richer because I can lead a normal life, work in my profession, play sports, and enjoy my hobbies despite my hearing problem. And richer because I can do all the little things myself without having to ask others for help.«

Bernhard, MED-EL bilateral recipient

»The most beautiful part of hearing for me is being able to hear and understand my 11-month-old son. This is something I would never want to miss. I am ever so grateful for all the happy moments I have gained with my CI.«

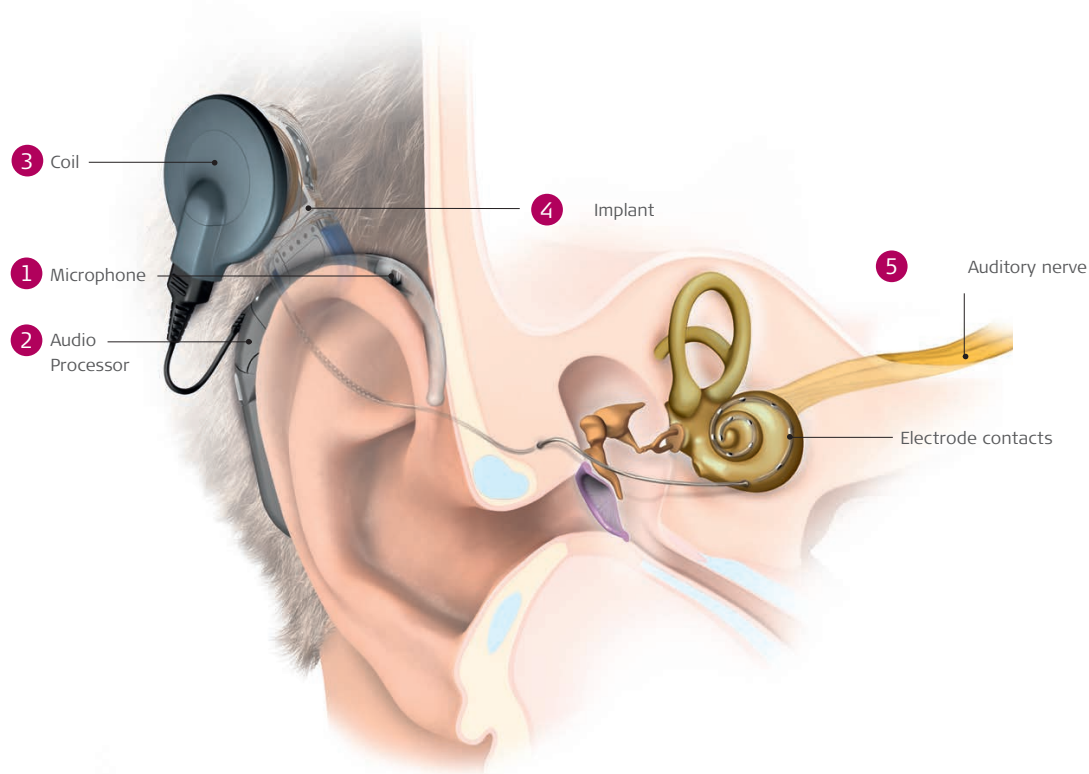
John, MED-EL recipient

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About Cochlear Implants

MED-EL Cochlear Implant Systems convert everyday sounds into coded electrical pulses. These electrical pulses stimulate nerve fibers in the cochlea. The auditory (hearing) nerve transmits the signals to the brain where they are interpreted as sound. The implant continuously stimulates at very high speed. As the brain receives sound information instantaneously, sounds are heard as they occur.



Check out www.medel.com for detailed 3D animations explaining how CI systems work.

- 1 Sounds are picked up by the microphone in the audio processor.
- 2 The audio processor analyses and codes sounds into a special pattern of digital information.
- 3 This information is sent to the coil and is transmitted across the skin to the implant.
- 4 The implant interprets the code and sends electrical pulses to the electrodes in the cochlea.
- 5 The auditory nerve picks up the signals and sends them to the auditory centre in the brain. The brain recognizes these signals as sound.

Benefits of Cochlear Implants

Who can Benefit from a Cochlear Implant?

Cochlear implants are designed for people with severe-to-profound sensorineural hearing loss (nerve deafness) who do not receive benefit from a hearing aid. They can be used effectively by both prelingually and postlingually deafened children and adults. While the benefits each person receives depend on a variety of factors, clinical experience has led to the following general guidelines:

- The shorter the period of profound deafness, the greater the likely benefit of a cochlear implant.
- People who have memory of speech and language may derive more benefit from a cochlear implant.

Learning to hear with a cochlear implant is a process. Depending on factors such as hearing history and age, the brain may require some time to adjust to the stimulation it receives from the implant. An individually-tailored rehabilitation program helps recipients maximize the benefit of their implants.

What Benefits can be Expected from a CI?

Everyday Sounds

Virtually all cochlear implant recipients gain sufficient access to be able to hear environmental sounds. This benefit helps people keep in touch with their environment and is also an important safety consideration, allowing important sounds such as traffic, sirens, and alarms to be heard.

Speech Understanding

Virtually all recipients hear speech sounds through their cochlear implant, although it usually takes some time to learn to understand these sounds. Being able to hear speech can be of great help to those who speech-read, and it makes everyday communication much easier. Many cochlear implant recipients go on to understand conversations over time without speech-reading.

Using the Telephone

Cochlear implant users report using both landlines and mobile phones for communication. Having telephone conversations, particularly with familiar speakers, is not uncommon.

Music Appreciation

Cochlear implant users are better able to appreciate and enjoy listening to music, thanks to the MED-EL Triformance coding strategy that supports the diversity of sounds needed for music appreciation.

Improved Speech

Hearing one's own speech and the speech of others helps cochlear implant users fine tune their speaking skills and voice quality.

Listening in Background Noise

Background noise makes hearing more difficult for everyone, especially for hearing aid and cochlear implant users. MED-EL cochlear implant systems make use of fast stimulation rates and advanced speech processing strategies to optimize speech understanding in background noise.

Living and Hearing with a Cochlear Implant

It is common for people to experience a wide range of emotions, both positive and negative, in the first few months of hearing with a CI. Along with the exhilaration of exploring the world of sound comes the challenge of explaining your new hearing status to family and friends and perhaps the frustration that certain listening situations are still difficult.



Making a Start

Many CI recipients report that they feel they have been given an opportunity to “start again.” This restart may mean being able to cast off old (or bad) habits, such as nodding when conversations are only partly understood or pretending that you’ve followed a conversation when in fact you missed a key word. A CI often enables people to move forward with renewed confidence in managing conversations and other difficult listening situations. A good way to approach such situations is to have a toolkit of strategies or tactics to use when communication doesn’t go smoothly.

A goal to work toward is having the confidence to use conversational repair strategies and not feeling embarrassed about having to ask someone to repeat something.

Family and Relationships

Getting a CI is often a life-changing event that affects not only the CI recipient, but also family and friends who can be your best allies. However, it is important that their expectations fit in with your own and those of your CI team. In some cases, expectations of others can cause unnecessary pressure for you; for example, at CI switch-on, a time when hearing with a CI is completely new and clarity has not yet been achieved. Many CI recipients report that their relationships go through cycles; therefore, CI users and their family may benefit from professional counselling support. Many CI centres encourage recipients to involve people close to them; for example, by inviting them to attend rehabilitation sessions and to participate in listening exercises at home. In this way, family and friends can gain an understanding of cochlear implants and the benefits that can be expected, as well as learn how they can best help in the rehabilitation process.

Workplace

Having a CI and experiencing improvements in confidence and communication often leads people to review their employment situation and consider new options. CI users may need support to get back to work, explore new employment options, or resolve difficult situations at work. If vocational support is not available at your CI centre, many job centres have trained staff to assist individuals with disabilities. Combined support from your local job centre and your CI team or a local hearing professional is likely to yield the best outcome.



Maximizing Listening and Communication

Daily Listening Journal

Many implant users find a listening journal to be useful. People record entries into a journal describing what they hear with an implant, memorable experiences related to their newfound listening skills, and problems experienced, as well as solutions to overcome these problems. Journaling helps you adopt a problem-solving approach to deal with a difficult communication situation the next time it occurs. A journal is useful in that it provides a record of the progress you experience with your implant and an encouragement for those times when you don't feel your implant is helping you or you feel that you are stuck. A journal also provides your therapist and implant team some insight into your experiences, which will then help them in assisting you with your implant and therapeutic needs.

Strategies for Difficult Listening Situations

There are a number of simple strategies you can use to increase understanding of speech in a conversation. As you gain more experience with your CI, you will feel more confident to tackle increasingly difficult situations and challenges. It is likely, however, that some listening situations will still present a challenge. While having a CI does help enormously with communication, many CI users report that some communication situations still remain difficult. What is most important is helping hearing people understand the needs of a person with hearing loss. Most people are happy to make adjustments to accommodate certain needs of people with hearing loss, but the challenge is communicating those needs. You have probably asked people to speak more slowly only to find that they speed up again a couple of minutes later, apparently forgetting your request. Often, CI recipients find themselves in less than optimal listening situations.

OTHER HELPFUL RESOURCES

For more strategies and tips, see [Hear at Home](#)

Hear at Home is a home training program for young people or adults with a hearing loss. It aims to meet the needs of people with a hearing implant who require training and support in the absence of trained personnel at home. The exercises are designed for use with family or friends as the speaker/exercise partner. This resource can also be used in clinics as an auditory training program for adults, allowing for adaptation of the exercises according to the abilities and skills of each recipient



Fortunately, there are a number of strategies you can use to enhance communication interactions:

- Ask the speaker to converse in an area with good lighting so that you can easily use your speech-reading skills (watching the person's lips, facial expressions, gestures, and body language).
- Concentration is essential. Try to pay as much attention as possible to the speaker and what is being said. As prolonged concentration is often tiring, allow yourself regular breaks.
- If people are eating, smoking, or have their hands covering their faces while talking to you, explain that you need to see their mouth clearly.
- Ask the speaker to speak clearly and naturally but not to shout or exaggerate.
- If you do not understand what someone is saying, ask the speaker to repeat the statement and then check your understanding of it.
- If you do not understand what someone is saying, ask the person to rephrase the statement.
- When entering a group in the middle of a conversation, ask someone to briefly sum up the conversation for you.
- If someone is talking to you from a distance, ask the person to move closer before repeating the message.
- If someone addresses you from another room, go there or ask the person to come to you.
- When trying to communicate in a noisy environment, try to move as far away as possible from the source of the noise.
- In an extremely noisy situation, such as when a loud truck drives by, wait until the noise has passed before continuing.
- If possible, avoid rooms with poor acoustics, such as those with wooden or tile floors or that have many uncovered windows. Try to arrange meetings in rooms with less reverberation.
- Request that a microphone be available at meetings.
- Arrive at meetings early to ensure an optimal seat close to the speaker and far away from a wall.
- When going to a movie or to the theatre, read the reviews in advance to familiarize yourself with the plot.
- Understanding speech is much easier for most people when discussing a familiar topic. Ask a family member or co-worker for key words about the topic.
- Try to identify the ideas being discussed rather than understanding every word. Use information from the speaker to get the gist of what is being said.
- If you are not sure, ask questions to clarify the meaning of parts you may have misunderstood.
- If someone is giving you important information, ask them to write down the crucial parts for you.
- Summarize what you have heard to ensure that you have understood the message correctly.
- Try to relax. Becoming tense often results in missing important information and making more mistakes.
- For more help in communication situations, seek assistance from your hearing professional.

Telephone Use

The telephone has become an integral part of our lives, affecting communication at home, in the workplace, and in social environments. Understandably, many CI recipients are interested in learning how to maximize their use of telephones. Telephone use can be improved through specific training. Telephone training includes tasks to develop a telephone procedure with family and friends and to achieve open-set understanding on the phone with both familiar and unfamiliar speakers.

Components of telephone training may include

- Establishing goals, screening abilities, and evaluating your potential for telephone communication
- Practicing simulated conversations, judging success, and practicing component skills
- Practicing conversations in real-life situations
- Discussing a program with your hearing professional

Music

Many CI recipients are eager to explore music soon after switch-on. Their first impressions, however, may be disappointing. Initially, all that may be heard is the rhythm of music, without the subtleties of musical melody. Fortunately, music appreciation usually improves significantly over time. There are a number of ways you can improve your ability to appreciate music. At the beginning, try listening to a single instrument, such as a piano or a guitar. Groups of instruments played together are often perceived as noise because you may not yet distinguish between individual instruments. Instruments such as a violin should also be avoided at this early stage as they typically do not sound pleasant. Observing the instrument being played, such as on television or a video, is a helpful technique.

Try exploring a piano keyboard. Can you hear a distinct note with each key, or do certain notes sound similar?

Listen to music that you enjoyed prior to losing your hearing. If you listen to music with lyrics (words), having a copy of the lyrics will help you recognize the words as you hear them. Many CI users report that musical appreciation seems to improve considerably after 6–12 months of CI use.

OTHER HELPFUL RESOURCES

For more strategies and tips, see
Telephone Training Tips

Telephone Training Tips is a set of useful tips for cochlear implant users. It can be used by therapists and users as a concise overview of the key issues involved in successful telephone use. The aims of telephone training are covered and, tips are provided on the assessment of telephone use, telephone etiquette, therapy guidelines, telephone alternatives and accessories. A set of useful references is also included for further information.





Auditory Rehabilitation

What is Auditory Rehabilitation?

Auditory rehabilitation helps you obtain the maximum possible benefit from your implant. While improvements following initial programming sessions tend to happen quickly, further improvements can occur over several months and even years. Both you, your family, and friends can be involved in the learning process. Success is enhanced when communication partners are involved in the rehabilitation process.

Depending on individual needs, therapy goals may include

- Development of realistic expectations
- Systematic auditory and auditory-visual training
- Communication skills training

Auditory rehabilitation programs may include some or all of the following components:

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| <ul style="list-style-type: none">• Counseling• Auditory training• Speech-reading• Communication skills training<ul style="list-style-type: none">> Conversational techniques> Repair strategies> Assertiveness training> Interpersonal skills> Coping mechanisms• Speech therapy<ul style="list-style-type: none">> Articulation, voice, and resonance> Rhythm and timing | <ul style="list-style-type: none">• Guidance<ul style="list-style-type: none">> Information on the auditory system and hearing loss> The effects of hearing loss on communication> The impact of background noise and poor listening conditions> The importance of visual input, audiovisual integration, and attending behavior> The impact of talker differences and social conditions> Benefits and limitations of speech-reading> Benefits and limitations of assistive devices> The use of community resources> Self-help groups |
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Helping Your CI Team Help You

"After you've received your speech processor, that's when the work begins." This phrase is often heard at CI user group meetings. It will be more or less true, depending on the individual, the situation, and the recipient's aims and abilities. CI systems and rehabilitation techniques have progressed rapidly since the early days of implantation. CI teams include a range of professionals who can help you maximize CI use. Feedback from you is essential in helping your CI team create the best program to meet your needs. What can you hear? What sounds do you recognize? What would you like to be able to hear? What different situations do you communicate in, and how important are these situations to you? Are there speakers or voices that are easier than others to understand? How would you rate the sound quality?

Tips:

- Try to take notes; it is often difficult to recall everything said during a clinic visit.
- Use a variety of descriptions; give the clinician as much information as possible when trying to describe a particular sound or sound quality.
- Read your user manual and become familiar with your cochlear implant system.
- Experiment with the controls of your audio processor in order to get a feeling for what they can and cannot do in different situations.
- Share your hopes and ambitions for your hearing with your clinicians.

Resources for Cochlear Implant Recipients

MED-EL provides a wide range of online and paper-based resources to support your listening and spoken language development. These include information booklets, activity resources to practise listening in everyday life situations, and apps for your phone or tablet.

For further information please go to our website at www.medel.com





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