Tips for Cochlear Implant Recipients to Enjoy Music

By Donna Sorkin, MA, and Charles Limb, MD

he conventional wisdom used to be that cochlear implant recipients didn't enjoy music. Since we called the external device a *speech* processor, candidates were routinely counseled to expect good access to *speech* sounds—but not to expect much in the musical realm. Pitch is not handled well by cochlear implants (CIs) and since pitch determines melody, the guidance was "it's best not to spend time on music." Expectations for children were even worse since they typically had no memory of music prior to cochlear implantation.

The new conventional wisdom is different. Teenagers with cochlear implants may ignore what adults say they are supposed to like (or not like). Most CI recipients implanted during childhood had no preconceived notions of what music should sound like and many decided they liked what they heard! Similarly, despite guidance from professionals, many adults decided they wanted to try listening to music with their CIs. Some who had a musical background before losing their hearing pushed forward despite the fact that the sound was different. Musicians who use CIs provided guidance. Listening to music isn't a competition. It's about enjoyment and benefits people with CIs can derive from music, which can be enormous.

Music is arguably the most complex and sophisticated form of sound possible. Music is a form of patterned sound that uses elements of pitch, melody, harmony, rhythm, and timbre to convey meaning. Lyrics are often part of music, adding a linguistic dimension to the musical experience. It is helpful to break down music into these components, and evaluate the way CI devices transmit information by category.

MUSIC PERCEPTION FUNDAMENTALS

- Cochlear implant recipients have a range of pitch discrimination outcomes but in general, it is poor. However, many CI users can perceive melodic contour correctly, a crucial element of melody identification.
- Rhythm perception may be near normal. This aspect of music is very helpful for many CI users for listening to music with strong rhythmic content.
- Timbre perception is often poor, but nonetheless, most CI listeners can identify some musical instruments in a closed set and may be able to improve this ability with practice.
 Timbre discrimination (rather than identification) is intact for many CI users.





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Understanding lyrics for new songs is difficult. The presence of lyrics can help CI users appreciate music.
The following tips may help CI recipients enjoy music.

CHOOSE SELECTIONS WITH CARE INITIALLY

- Certain types of music may sound better than others—start with those.
- Familiar songs or music selections that people recall from before their hearing declined may be easier to follow.
- Music with a strong beat (e.g., rock, rap, hip hop, country) may be easier to perceive.
- Selections that are not overly "complicated" or noisy may sound better. Fewer instruments may help.

MAKE THE SOUND AS CLEAR AS POSSIBLE

- Listen in a guiet environment with limited reverberation.
- Avoid competing background sounds or noise.
- Try connecting with streaming, telecoil, direct connect, or headphones.
- Cars often have high-quality speakers and provide a contained space that may provide a good listening experience.
- · Keep the volume down, at least initially.

OBTAIN THE WORDS TO SONGS

- Most CI (and hearing aid) users have difficulty understanding lyrics in unfamiliar music.
- Download lyrics and listen initially with the words. After a few sessions, one may be able to understand words in songs.
- Visual clues such as watching a singer's face may help.
- Listening repeatedly to songs may make the words more accessible.

TRY DIFFERENT SETTINGS ON THE SOUND PROCESSOR

- Try the setting designed for noise.
- Compare the noise setting to your usual setting (if different).
- If using a hearing aid on the contralateral ear, wearing it while listening to music may help with melody.

PRACTICE

 Like other auditory training, repetition helps "train your brain."



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Music Rehabilitation Resources for Adults with Cochlear Implants

- American Cochlear Implant Alliance offers content for adults with cochlear implants. https://www.acialliance. org/page/CIMusic
- Angel Sound is a free interactive, web-based auditory training/hearing assessment program covering a range of listening skills including music. http://angelsound.tigerspeech.com
- Meludia Melody is an ear training music program made for professional musicians but also appropriate for beginners.
 - https://play.google.com/store/apps/details?id=com. Meludia.MicroMelody&hl=en_US&gl=US
- Use auditory training programs for music from Angel Sound http://angelsound.tigerspeech.com and from CI manufacturers.
- Listen repeatedly to music you were familiar with before.
- Use above tips in combination with practice.
- Use a piano keyboard to pitch train and identify areas of poor performance.
- If there is interest in learning a musical instrument, consider starting with instruments with discrete pitch steps

- AudiologyOnline is a one-hour (free) captioned course offered in collaboration with ACI Alliance. https://www. audiologyonline.com/audiology-ceus/register_account/ 35602
- Advanced Bionics, a CI company, offers Musical Atmospheres (hierarchy to help recipients practice components of music). Free account through www.hearing success.com
- Cochlear offers HOPE Notes (CD, DVD, detailed User Guide). https://www.cochlear.com/us/communicationcorner/program/adult-music.htm
- MED EL provides recommended music to listen to on Spotify and tips for learning to appreciate music with a Cl. https://www.medel.com/en-us/support/rehab/rehabilitation-downloads

(piano, guitar) rather than instruments that require intonation by ear (violin, trombone).

MAINTAIN REALISTIC EXPECTATIONS

- Music will not sound the same.
- Music is subjective for everyone—whether or not someone has hearing loss.
- Music is part of a larger experience. Most CI recipients listen to, and enjoy, music.

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