



Cochlear Implants

What You Need to Know Today

By Brian Kaplan, M.D. and Mickey Brown

Overview

The very best Doctors of Audiology are well-versed in various types of hearing instruments, assistive technologies, cochlear implants, bone conduction devices, and hybrid implants. While it can be a challenge to stay up to date with rapid technological advancements in today's market, maintaining a facility with all the various hearing technologies, diagnostic platforms and a high level of personalized service can help you differentiate your practice.

From a strictly fiscal perspective, it is best practice to cast the widest net possible so that you serve a diverse set of patients who can then act as referral sources. On average, the typical adult cochlear implant candidate will have worn three-to-four pairs of hearing aids prior to consideration of a surgical alternative. Further, once implanted, many of these patients will continue to be users of hearing instruments in their non-implanted ear.

In this article, the authors will explore the business side of cochlear implantation, providing insight into what you may need to consider and what you will need to do when you bring cochlear implants into your practice. The implementation is more rewarding, and less complex, than you may think.

Cochlear Implants: What You Need to Know Today

Once considered a treatment of last resort for profoundly deaf adult patients, today's cochlear implants are indicated for adult patients with moderate-to-profound sensorineural hearing loss in both ears, and for children who fall into the severe-to-profound sensorineural hearing loss range*. Additionally, adults with bilateral moderately-severe-to-profound sensorineural hearing loss in the higher frequencies, who retain significant hearing in the lower frequencies, can now be considered for hybrid cochlear implants which offer electric-plus-acoustic stimulation for what are commonly referred to as "ski slope hearing losses."* Figure 1 outlines the candidacy guidelines for one line of CI devices on the market today.

In the early days of their existence, cochlear implants (CI) were envisioned as an aid to lip-reading and were reputed to provide environmental-sound awareness for the "deaf" patient. Contrasted against this stark beginning are today's cochlear implant sound processors which utilize Bluetooth® technology — with some even able to leverage "Made for iPhone" streaming of music, movies, telephone calls, and more. Where we once saw CI outcomes as aided soundfield testing only, a review of a modern cochlear implant recipient's electronic medical record (EMR) is likely to show speech perception testing conducted in noise, using recorded sentence test measures such as the AzBio (Spahr AJ et al, 2012).

With the rise of wearables and fitness trackers, our industry and perhaps, most importantly, our patients, are enjoying the erosion of stigma, related to hearing loss and its treatment. Baby Boomers are aging into hearing loss in large numbers and, as a tech-savvy demographic, they require excellence in design, performance, and strong lifestyle compatibility, matched to their chosen technologies. Given the length of time many patients wait before seeking treatment, there is a near universal response following implantation. These individuals consistently comment on the improvement in their quality of life (and hearing), wishing they had made the decision sooner.

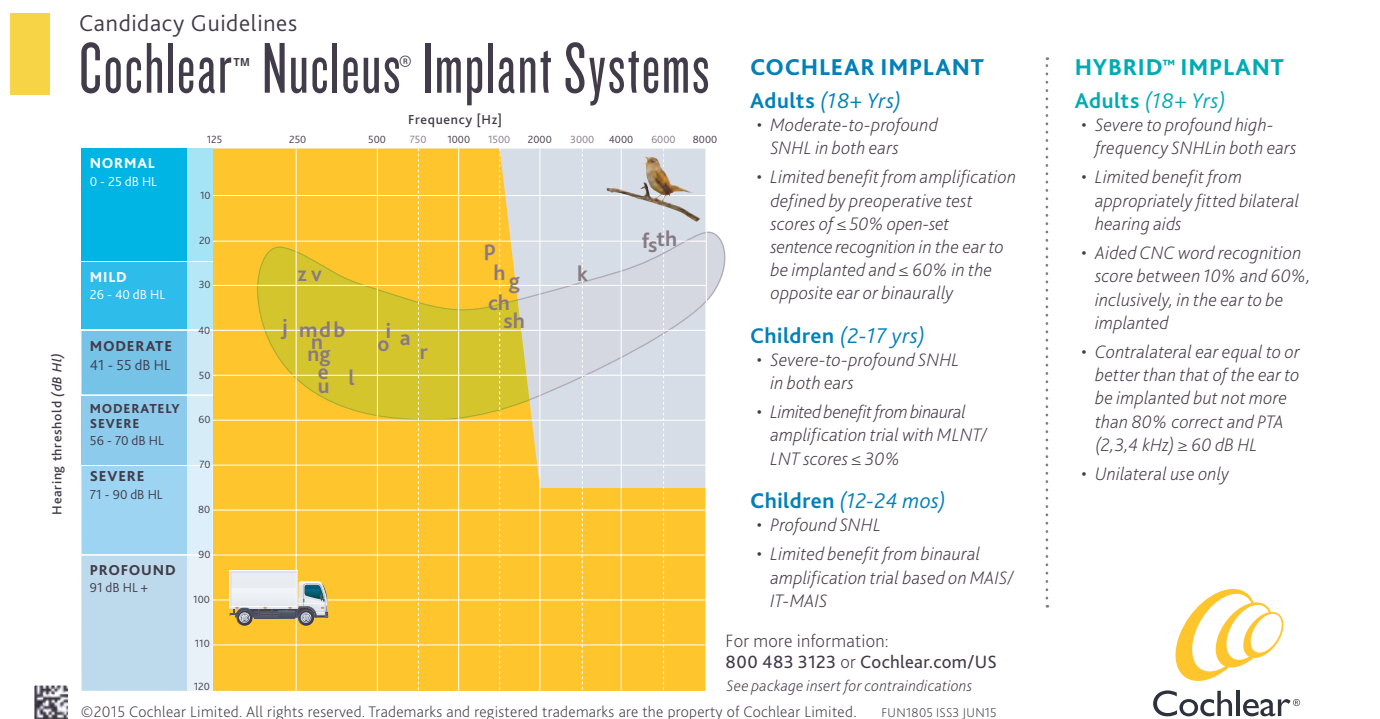


Figure 1: Candidacy Guidelines Cochlear Nucleus Implant Systems FDA Indication for the Cochlear™ Nucleus® portfolio of cochlear implants.**

*The Cochlear™ Nucleus® Hybrid™ Implant System is approved in the US for adults 18 and older. The acoustic component should only be used when behavioral audiometric thresholds can be obtained and the recipient can provide feedback regarding sound quality. The Cochlear™ Nucleus® Hybrid acoustic component is not compatible with the Cochlear™ Kanso® Sound Processor. The Kanso Sound Processor is not intended to be used by Hybrid L24 Cochlear Implant recipients who receive benefit from the acoustic component.

In contrast to hearing instruments, cochlear implants are typically a covered benefit for those with private health insurance,* as well as those patients covered under Medicare and Medicaid.**

The Patient's CI Journey

With improvements in the patient-worn technology continuing at a rapid pace, software and CI clinical care have also seen a rise in efficiency. Objective measures such as Cochlear's Neural Response Telemetry (NRT™) and interpolation of threshold (T) and comfort (C) level measures can help to make programming efficient for patient and clinician alike. While many of us may remember the early days of cochlear implant patient care, where initial device activation appointments lasted several days, today, cochlear implant activation can be accomplished in as little as an hour. Routine follow-up visits can be conducted as needed and some of the implant manufacturers offer a level of self-service to the patient for ordering of parts, how-to videos, and replacement processor programming. This corporate partnership can remove the previous workload burden from the programming audiologist.

Figure 2 shows how the CI patient journey has become more streamlined, as a result of improvements in CIs and their programming software.

Because less than 10% of patients, who currently meet audiometric criteria, have a cochlear implant, there remains an enormous unmet clinical need. If you use NOAH or an Electronic Medical Records system (EMR), it may be as simple as a quick data pull to find patients who may fit Food and Drug Administration (FDA) indications. Adults with bilateral moderately-severe-to-profound sensorineural hearing loss, who meet the indication for cochlear implantation, are often struggling to understand speech in both quiet and noise – yet may still be able to use a telephone with assistive technologies like a telephone coil (T-coil). They may have worn several sets and types of hearing instruments, and may be in your office for frequent updates, asking what else can be done to improve their hearing. As noted in Zwolan's article in this issue of Audiology Practices, performance in the booth should be compared to the individual's own report of how their hearing aids are performing in their daily life.

The FDA recently approved telehealth for remote programming of cochlear implants which can further improve access to care for patients who live in remote areas and/or experience challenges with their mobility (or ability to drive a car). Learn more at the following link: <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm585767.htm>.

Hosting professional and candidate events in your area can help to increase referrals to your practice for CI and bone-conduction candidacy evaluation and connect you directly with new patients who are seeking an alternative to hearing aids. Social media posts and updates to your website are also great ways to generate interest across your community. Since only 5-10% of these patients will be candidates for implantable technology, these events are likely to significantly increase traditional hearing aid sales as well.

**Each cochlear implant manufacturer will have slightly different FDA indications and the reader is referred to each manufacturer's website for clarity. www.cochlear.com/us is the address for Cochlear Americas

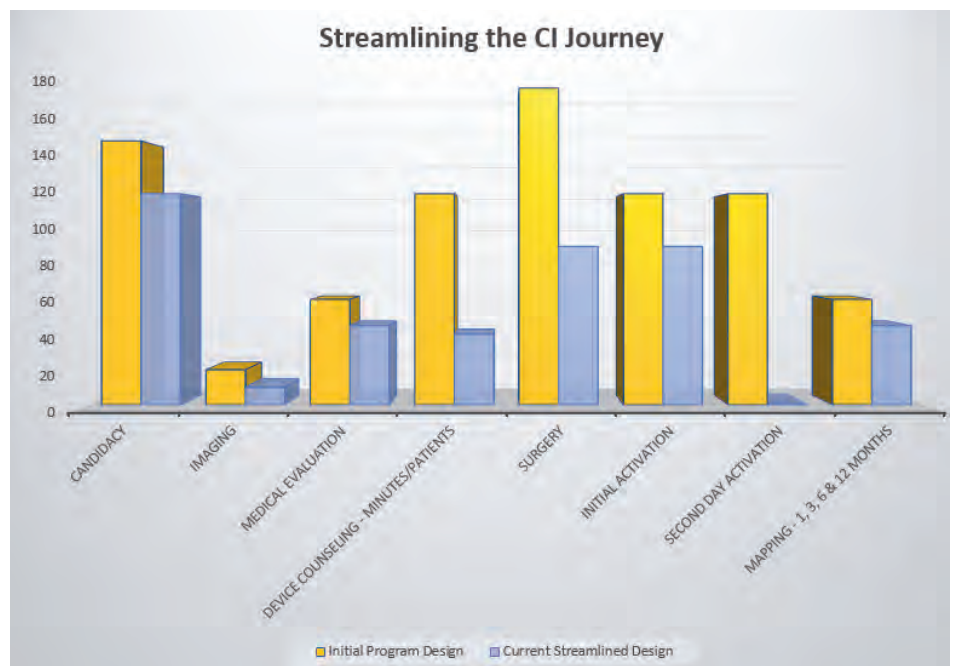


Figure 2. Clinical time estimates, Kaplan 2017 (unpublished)

A candidacy evaluation can be completed in about an hour and incorporates both aided and unaided testing, including speech reception measures. The Minimum Speech Test Battery (MSTB) is available at no charge when you visit the following link: <http://www.auditorypotential.com/MSTBfiles/MSTBManual2011-06-20%20.pdf>.

This site can also serve as a good reference for test materials and recommended test batteries. If your assessment indicates that the patient may benefit from cochlear implantation, your next step is referral to an implanting surgeon for a medical evaluation. Figure 3 provides some general guidance on the estimated amount of time spent for various appointments related to CI.

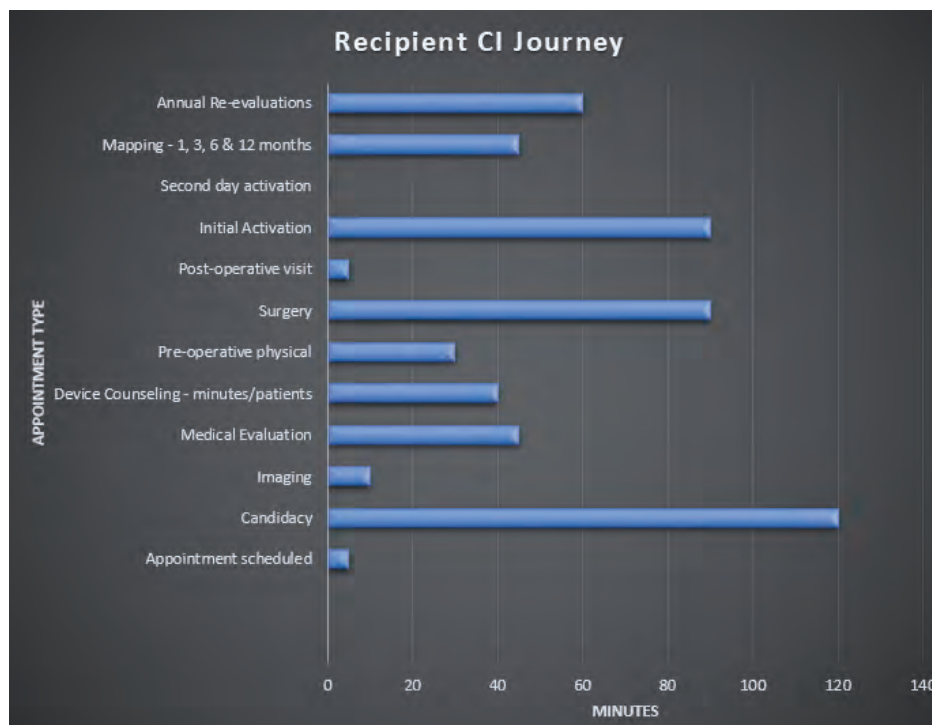


Figure 3. Time Estimates for the Patient’s Journey, Kaplan, 2017 (unpublished)

Surgical Considerations

Today, cochlear implantation is most often an outpatient procedure that takes about 90 minutes to complete. Patients typically experience very little post-operative pain and the actual surgical procedure is considered both safe and effective. As with all surgeries, the typical risks of bleeding and infection apply.

Counseling on the surgical risks/benefits will be managed by the implanting surgeon. Cochlear implantation is performed on children as young as 12 months of age, all the way through the age spectrum to patients who may be in their 90’s. The surgeon will address the patient’s medical candidacy and answer your patient’s questions during the pre-op candidacy evaluation at the implanting center.

Once you are connected with an implant surgeon, she can advise you on how she prefers that you counsel around the medical aspects of cochlear implantation. Additionally, post-operative care will be determined by you and the implanting surgeon. You may wish to provide both initial activation programming as well as routine follow-up, or you may elect to see the patients only on an as-needed basis for CI adjustments and/or maintenance of the contralateral hearing aid after initial activation.

Reimbursement

We know that many recipients report that receipt of a CI improved their quality of life. Of note, Crowson, Semenov, Tucci et al (2017) concluded, “... Considerable work has been done on the quality of life (QoL) attainment and health economic implications of CI. Unilateral CI across all age groups leads to reported sustained benefits in the recipients’ overall and disease-specific QoL...”.

As a whole, the industry agrees that cochlear implants can provide real value to the lives of patients; however, billing for cochlear implants does differ slightly from billing for hearing aids. Cochlear implants are a Class III medical device and, as such, are subject to a higher degree of federal regulation and can be reimbursed by both public and private insurance.

It is most likely that the implanting surgeon will assume responsibility for ordering and billing for the cochlear implant system and that evaluation, programming, and follow-up care will be provided by your team. Billing for these important services can be supported in a variety of ways by CI manufacturers:

- Reimbursement resources to hearing healthcare providers and to the patients themselves. Experts are available to assist with various provider-needs such as coding, payment, payer coverage, contracting, and other related issues.

- On-demand online education related to cochlear implant billing through Audiology Online (e.g., www.AudiologyOnline.com/Cochlear_Americas). The professional blog, pronews.cochlearamericas.com also features periodic articles on how to bill, code and ensure reimbursement. Access to the professional portal, myCochlearClinic.com, saves time and helps clinics deliver optimal care. A myCochlearClinic.com account gives providers exclusive, secure access to tools and resources that support patient care.
- Otologic Management Services (OMS) is a no-charge service offered by Cochlear Americas that is available to help patients and providers obtain the necessary insurance coverage and assistance in appealing denied coverage for both the Cochlear™ Nucleus® portfolio of cochlear implants and the Cochlear™ Baha® bone anchored system as well.
- Clinics can also offer sale of assistive technologies and upgrades to their patients as well as fee-for-service care.

The relationship forged between the implanting surgeon and the referring audiologist is incredibly rewarding for all involved. Providing the best level of care for our patients, while creating new professional networks and friendships, is often a foundation of the practice.

Conclusion

To recap: A high level of personalized service that includes cochlear implants, bone anchored solutions, assistive technologies, and a variety of hearing instruments can help you differentiate your practice in today's marketplace. Information on candidacy, evaluation, and patient outcomes is widely available to you across a variety of channels. Developing a strong and active referral partnership with an implanting surgeon in your local community can be a win-win for your practice, your patients, and for your implanting surgical partner's practice as well. Support in developing this type of partnership is made easily accessible through Cochlear's Provider Network (CPN) program and development of strong billing practices and support is delivered through the Otologic Management Services (OMS) group as well as through the Coding Support Program. On-demand 24-hour access to both the professional and recipient portal helps to improve clinical efficiencies within your practice.

Hosting events in your area can help to increase referrals to your practice and can connect you directly with new patients who are seeking an alternative to hearing aids. Social media and updates to your website are also great ways to generate interest across your community. Since only 5-10% of these patients may be candidates for implantable technology, these events are likely to significantly increase traditional hearing aid sales for your practice. ■

References

Crowson, Semenov, Tucci et al. (2017) Quality of Life and Cost-Effectiveness of Cochlear Implants: A Narrative Review Downloaded at <https://www.karger.com/Article/FullText/481767>

Spahr AJ, Dorman MF, Litvak LM, Van Wie S, Gifford RH, Loizou PC, Loisel LM, Oakes T, Cook S. (2012) *Ear Hear.* 33(1): 112–117.

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*Contact your insurance company or local Hearing Implant Specialist to determine your eligibility for coverage.

**Covered for Medicare beneficiaries who meet CMS criteria for coverage. Coverage for adult Medicaid recipients varies according to state specific guidelines.

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