Cochlear™ Nucleus® System

Adult Cochlear™ Connected Care model quick guide

	Activation	**Optimization**		**Maintenance**
Timing	Within 2 weeks post surgery (0–14 days)	1–3 months post surgery	**Timing**	Graduate those meeting milestones to annual monitoring at approximately the 90-day appointment (3+ months post surgery)

Programming (Activation)
- ☐ Inspect implant site, select magnet strength
- ☐ Activate using population mean
- ☐ Minimum dynamic range: 40 CL Streamlined workflow default: 46 CL
- ☐ Globally increase T and C levels together until "Loud." This may take several minutes as the patient habituates to electric stimulation
- ☐ Sweep Cs in bands to ensure broadly equivalent loudness across the array. Stimulation should be "loud" for each band across the frequency range
- ☐ Program 1: SCAN 2 FF, Program 2: SCAN 2
- ☐ Activate Master Volume Bass & Treble (MVBT)

Programming (Optimization)
- ☐ Inspect the implant site and equipment, assess magnet strength
- ☐ C Levels: Ensure appropriate and equal loudness across bands of electrodes
- ☐ T Levels: Measure streamlined Ts (at least 5) at least once in the Optimization phase, ensuring they are set at the lowest level that is 100% audible
  - Reassess only when there are sound quality or audibility concerns
- ☐ Cross check the MAP using objective measures
  - eSRT thresholds are typically ~15 CL above C levels[1,2]
  - tNRT thresholds typically fall between T and C levels of a MAP with the same pulse width[3]

Milestones (Maintenance)
- ☐ At ~3 months, CNC scores in the implanted ear of ≥56% or ≥20% improvement from preoperative baseline
  - This ensures the patient is achieving above average performance or a clinically significant improvement in speech perception[4,5]
- ☐ Appropriate audibility of better than 30 dB HL with the cochlear implant only
  - Appropriate access to soft sounds is associated with improved performance[6]
- ☐ Appropriate device use of 10+ hours per day
  - Full time cochlear implant use is associated with improved performance[7]
- ☐ Patient reported satisfaction assessed formally (e.g. CIQOL, SSQ) or informally
  - This measures the patient's hearing experience with their cochlear implant to ensure subjective benefit

Audibility, speech perception, patient satisfaction (Activation)
- ☐ Ensure audibility using Ling sounds or other informal measure

Audibility, speech perception, patient satisfaction (Optimization)
- ☐ Remote Check: Aided Threshold Test (ATT) for audibility and Digit Triplet Test (DTT) for speech in noise.
- ☐ Sound Booth: Measure soundfield audibility, CNCs in the implanted ear, and AzBio +10 in the everyday listening condition
- ☐ Administer patient reported outcome measure (e.g. CIQOL, SSQ)

Maintenance goals
- ☐ Use Remote Check to monitor the patient's performance when possible
  - Note that a change of 3 dB or greater is considered a clinically significant change on the Digit Triplet Test[8]
- ☐ Reassess T and C levels when indicated by performance changes or to address patient reported concerns
- ☐ Assess patient's other ear for potential CI candidacy
- ☐ Encourage patient to connect with Cochlear directly for support and troubleshooting
- ☐ Consider an upgrade (e.g. after 5+ years after initial processor fitting)

Contralateral ear (Activation)
- ☐ Bimodal: Link smart bimodal device
- ☐ Bilateral CI: Balance loudness between two ears

Contralateral ear (Optimization)
- ☐ Consider bilateral cochlear implantation for appropriate candidates
- ☐ Bimodal: Fit and link smart bimodal device as needed
- ☐ Bilateral CI: Balance loudness between two ears

Patient empowerment (Activation)
- ☐ Recommend 10+ hours of daily use
- ☐ Instruct on use of MVBT to self-manage loudness and sound quality
- ☐ Ensure registration of all patient equipment
- ☐ Schedule virtual patient appointment with the Recipient Solutions Manager (RSM) for introductory device education and aural rehabilitation guidance
- ☐ Review Aural Rehab materials (e.g. manual, Cochlear CoPilot)

Patient empowerment (Optimization)
- ☐ Confirm 10+ hours of daily use
- ☐ Review progress results with the patient
- ☐ Enroll in Remote Care. Once the patient has met their milestones (see right column), assign a baseline in Remote Check
- ☐ Ensure patient is continuing to access RSM services for accessory support, rehabilitation guidance, and other patient education
- ☐ Encourage use of MVBT to manage sound quality

Hear now. And always

Cochlear is dedicated to helping people with moderate to profound hearing loss experience a world full of hearing. As the global leader in implantable hearing solutions, we have provided more than 750,000 devices and helped people of all ages to hear and connect with life's opportunities.

We aim to give people the best lifelong hearing experience and access to next generation technologies. We collaborate with leading clinical, research and support networks to advance hearing science and improve care.

That's why more people choose Cochlear than any other hearing implant company.

References

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This is meant to be an at-a-glance resource. Excluded from this guidance are assessment of residual hearing, alternative MAP initiation methods, SSD recommendations, and EAS recommendations. Please see full Adult CI Protocol for complete care recommendations.

Remote Check and Remote Assist for Nucleus sound processors are intended for ages 6 and older. Remote Check and Remote Assist features are only visible and accessible if they are enabled by a clinician. Clinicians should consider the suitability of the feature before enabling Remote Check and Remote Assist. Only available at clinics that have enrolled in Remote Care.

SNR-NR, WNR and SCAN are approved for use with any recipient ages 6 years and older who is able to 1) complete objective speech perception testing in quiet and in noise in order to determine and document performance 2) report a preference for different program settings.

ForwardFocus can only be enabled by a hearing implant specialist. It should only be activated for users 12 years and older who are able to reliably provide feedback on sound quality and understand how to use the feature when moving to different or changing environments. It may be possible to have decreased speech understanding when using ForwardFocus in a quiet environment.

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