

IAP - IJPP CME 2025

**COCHLEAR IMPLANTS IN CHILDREN -
EXPANDING INDICATIONS AND THEIR
CLINICAL IMPLICATION*****Raghu Nandhan S*****Kiran Natarajan*****Nikhil Kumar P*****Mohan Kameswaran**

Abstract: Congenital severe to profound sensorineural hearing loss is one of the most common sensory impairments in childhood, significantly affecting speech, language, cognitive development and quality of life. Cochlear implantation has emerged as the safest and most effective option for hearing restoration in such children. Early identification through universal newborn hearing screening is vital as it enables timely diagnosis and intervention. Advances in screening tools have today expanded eligibility criteria for early implantation. Recent advances in biomedical engineering have improved implantation strategies. Further, comprehensive structured auditory verbal habilitation program has resulted in optimal speech and language development, when performed during the critical period of neural plasticity which is ideally less than 6 years of age. Thus, early and appropriate intervention remains the cornerstone for successful establishment of hearing.

Keywords: Cochlear implants, Universal newborn hearing screening, Early intervention, Auditory verbal habilitation.

Points to Remember

- *Congenital sensorineural hearing loss is a major yet remediable childhood disability.*
- *Cochlear implants bypass the damaged cochlear hair cells and directly stimulate the auditory nerve, making them the most effective treatment for severe to profound sensorineural hearing loss.*
- *Early cochlear implantation during the period of auditory neural plasticity (preferably between 1 to 6 years of age) results in superior speech and language outcomes.*
- *The joint committee on infant hearing, 1-3-6 guideline-screening by 1 month, diagnosis by 3 months and intervention by 6 months-remains the global standard for optimal intervention and auditory verbal habilitation.*
- *Successful outcomes of cochlear implantation solely depend on a multidisciplinary approach.*
- *Multi-centric government and NGO collaboratives to create widespread awareness with screening programs will pave the way forward.*

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