

# 유소아 난청의 최신 치료방법

## Update on the Management for Sensorineural Hearing Loss in Children

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### Abstract

Children with sensorineural hearing loss are managed with hearing aids or FM systems and also receive auditory and speech - language rehabilitation therapies when indicated. Children under auditory rehabilitation receive audiologic monitoring and language evaluations at 3 - month intervals. Cochlear implants can be an option of choice for children aged 12 months or older with severe to profound hearing loss who show limited benefits from conventional amplifications. The cochlear implant is an electronic device that can provide auditory sensation to a person with severe to profound sensorineural hearing loss. The cochlear implant bypasses the damaged organ of hearing and stimulates the auditory nerve directly. The cochlear implant consists of a surgically implanted component and an externally worn component. Before receiving an implant, each child is carefully evaluated by the cochlear implant team to determine if an implant is right for him or her. The parents and the child are provided with counseling and guidance about the implant systems available and what they can expect. As the criteria for cochlear implants expanding in children, an increasing number of children with severe malformation of the inner ear or multi-handicapped children are being considered for cochlear implantation. Three to four weeks after the surgery, the child is evaluated for fitting of the external device. After the device has been properly fitted, the child continues to follow his or her training program to learn to use the new sound provided by the implant. The use of cochlear implants in children with hearing impairment is a safe and effective way to improve speech and language when the benefits from hearing aids are limited.

Keywords : **Sensorineural hearing loss; Children; Hearing aid; Cochlear implant**

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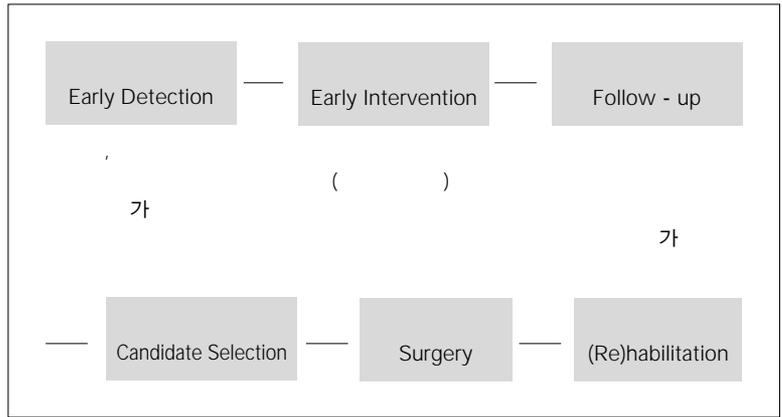
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25dB HL

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(electroacoustic characteristics)  
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(2).  
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' Half gain rule '  
(hearing aid fitting formulas)  
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가 가

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40dB HL ,

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(real ear measurement)

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. 1961 House

가 (single channel)

1970 House group

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1978 Clark 10 가

(multichannel) 가 , 1982

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CI 24R Contour가 . 1997 Combi

40+가 . 2004 7

1,590 ,

85,000

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3.

(external device)

(internal device)

(microphone)

1. (Cochlear Implant, )

(headset),

(speech processor)

(receiving anten-

na) 가 - (receiver - stimulator)

(electrode array)

2.

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1957 Djourno



가 (scala tympani)

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가 . C - arm

Impedance test, ESRT(electrical stapedial reflex test), ECAP(electrical compound action potential), Implant - EABR

(promontory stimulation test, PST)

(promontory stimulation - electrically evoked auditory brainstem response, PS - EABR) (6, 7). 3)

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MRI

inverted U C

MRI 가 .

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(closed mastoidectomy)

(posterior tympanotomy)

(facial , (10). ,

recess) (round window)

(cochleostomy) (habilita-

tion) . 3~4 , 1 1  
 , rehabilitation 1 , 6 1 1 , 1  
 1~2 1 . 1  
 . 3~6 1 . 가  
 (11, 12). tioned response)

ESR, ECAP, EABR  
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(speech coding strategy),  
 (stimulation mode)

(T - level) (C -

level)

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7.

(12, 16).

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(19, 20). Nikolopoulos (21) 8

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