

## The Effect of Hearing Aids and Cochlear Implants on Children's Development of Phonological Awareness Skills: A Review of the Evidence

**Purpose:** The purpose of this review is to determine if phonological awareness skill development varies based on intervention with cochlear implants (CIs) versus hearing aids in young children by the time they enter kindergarten. Phonological awareness is the ability to manipulate and analyze speech sounds (Werfel, Douglas, & Ackal, 2016) and contributes to literacy development. Evaluating phonological awareness skills determines whether children using hearing aids or CIs have difficulty identifying sounds in words (Ching & Cupples, 2015). Hearing aid and CI users rely on the auditory input from their devices to understand speech sounds. These devices can improve spoken and written communication for individuals with profound sensorineural hearing loss. However, even with these devices, children with hearing impairment are at risk for phonological awareness deficits. A critical difference between them is their invasiveness. Hearing aids amplify the sounds the child has difficulty hearing (Waltzman, 2006) through a mechanism worn behind or in the ear, whereas CIs convert sound waves to electrical impulses in a way that mimics natural hearing. Because profound sensorineural hearing loss damages the hair cells in the inner ear, specifically the cochlea, CIs are surgically implanted to directly stimulate the auditory nerve, bypassing the damaged inner ear (Martin & Clark, 2006).

**Method:** A systematic review of the best available literature is currently underway. Potentially relevant literature has been identified by searching the following terms in Galileo: "hearing aids", "cochlear implants", "profound sensorineural hearing loss", and "phonological awareness". Initially, there were approximately 17,000 results. Search configuration tools were used to limit the results to full-text articles and scholarly/peer-reviewed articles within the years

2005 to 2016. This narrowed the results to 2,611 articles. These results will be further screened to identify the most relevant studies.

**Results/Conclusions:** Currently, this review is in progress. Results/conclusions can potentially help parents make educated decisions on whether hearing aids or cochlear implants are the best option for the child's phonological awareness development.

**Keywords:**

- Cochlear Implants (CIs)
- Hearing Aids
- Phonological Awareness Skills
- Profound Sensorineural Hearing Loss

### References

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