

Study recommends exposing deaf children to sign language before and after cochlear implantation

April 25 2024, by Béatrice St-Cyr-Leroux



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Many researchers and clinicians advise the parents of a deaf child

waiting for a cochlear implant to avoid sign language and focus exclusively on spoken language.

This is due to the widespread belief that exposing a deaf child to sign language actually interferes with the learning of spoken language after the implant has restored hearing.

It's thought that using sign language leads to a "visual takeover" of brain pathways that would otherwise be dedicated to hearing.

But a recent study suggests that exposing [deaf children](#) to sign language before and after cochlear implantation has positive effects on spoken language and the ability to remember the sounds used in words, also known as phonological memory.

The study was conducted by Audrey Delcenserie, a Ph.D. student supervised by François Champoux, a professor in the School of Speech-Language Pathology and Audiology at Université de Montréal. The work is [published](#) in the journal *Developmental Science*.

Delcenserie compared the language abilities of deaf children who had been exposed to sign language before and after cochlear implantation with those of deaf children who had never had any exposure to sign language, and with children with normal hearing.

"Our results show that [early exposure](#) to sign language improves not only the child's spoken vocabulary, but also their morphological and phonological awareness, phonological memory and expressive grammar," said Delcenserie.

Preventing language deficits

Given the benefits for [language development](#) and memory, Delcenserie

encourages parents to learn and expose their deaf child to sign language even if the child will receive a cochlear implant.

This protects the deaf child from complete language deprivation prior to receiving the implant and counteracts the negative effects of delayed language acquisition.

"Without any [visual communication](#), a child who has been deaf from birth is deprived of any means of communication," explained Delcenserie.

"We also know that early exposure to language activates the innate neurocognitive systems responsible for language acquisition and that the optimal time for this activation is the first 12 months of life."

Furthermore, exposure to [sign language](#) confers cognitive and [social benefits](#) even after cochlear implantation.

"These children exhibit what we call bimodal bilingualism, which is associated with enhanced [executive functions](#) due to the demands of language switching," said Delcenserie.

More information: A. Delcenserie et al, Exposure to sign language prior and after cochlear implantation increases language and cognitive skills in deaf children, *Developmental Science* (2024). [DOI: 10.1111/desc.13481](#)

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