

# Public Summary

The following descriptions should be a combined half to one-page summary of the project in non-technical terms. It may be used for participant recruitment or education, marketing purposes, info for the NAL website or a summary update to executives.

Project Code & Title: XR1.3.2b Infant Discrimination and Early Acquisition of Language (IDEAL)

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## Project Goals

The IDEAL study aimed to 1) develop new clinical tools for assessing whether an infant with hearing loss can hear the differences between sounds after they are fitted with hearing aids; and 2) determine the relationship between early auditory discrimination and language skills at 3 years of age for children with hearing loss.

## Results

The findings show that Acoustic Change Complex (ACC) cortical responses can be reliably recorded to assess auditory discrimination ability in awake infants with normal hearing or hearing loss after fitting. The sensitivity is higher at age 3-6 months (>4 weeks after fitting) than the ACC results recorded at 7-12months. On average, higher rates of ACC responses are also associated with better functional performance as rated by parents. Therefore, it is feasible to use cortical responses to identify infants who may need cochlear implants. The behavioural results show higher discrimination rates at 3 years old than at younger age (7-12 months). The ACC is preferable to the behavioural assessment in the first year of life. Further analyses will determine whether early auditory discrimination predicts later language development in children with hearing loss.