

Mar 18, 2024

Version 3

# Adverse Outcomes of Combined Cochlear Implant and Hearing Aid Use: A Scoping Review V.3

DOI

<https://dx.doi.org/10.17504/protocols.io.dm6gp37xdvzp/v3>

augustina.noel<sup>1</sup>, Priyanka Jaisinghani<sup>2</sup>

<sup>1</sup>School of Rehabilitation and Behavioural Sciences, AVMC Campus, Vinayaka Mission's Research Foundation, Puducherry-607402;

<sup>2</sup>Baylor University



Priyanka Jaisinghani

Baylor University

## Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



**DOI:** <https://dx.doi.org/10.17504/protocols.io.dm6gp37xdvzp/v3>

**Protocol Citation:** augustina.noel , Priyanka Jaisinghani 2024. Adverse Outcomes of Combined Cochlear Implant and Hearing Aid Use: A Scoping Review. **protocols.io** <https://dx.doi.org/10.17504/protocols.io.dm6gp37xdvzp/v3> Version created by [Priyanka Jaisinghani](#)

**License:** This is an open access protocol distributed under the terms of the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

**Protocol status:** Working

**We use this protocol and it's working**

**Created:** March 16, 2024

**Last Modified:** March 18, 2024

**Protocol Integer ID:** 96813

**Keywords:** Bimodal; Electric-Acoustic Stimulation; Interference; Hearing Aid; Cochlear Implant, adverse outcomes of combined cochlear, hearing aid use, hearing aid, combined cochlear, adverse outcomes with the combination, adverse outcome, highlighting adverse outcome

## Abstract

Relevant articles highlighting adverse outcomes with the combination of hearing aid and cochlear implant published between 2000 and 2023 will be searched using manual search on search engines such as Google Scholar, PubMed, Science Direct, Elicit, Semantic Scholar, and ComDis Dome.

## Attachments



[Search Strategy for ...](#)

126KB



## Review Demographic details

- 1 Type of Review: Scoping Review
- 2 Title: Adverse Outcomes of Combined Cochlear Implant and Hearing Aid Use: A Scoping Review.
- 3

## Review Demographic details

- 4 Original language title: English
- 5 Start Date: 25/02/2024
- 6 End Date: 25/02/25
- 7 Stage of review at time of this submission: Piloting of the study selection process
- 8 Named contact: Priyanka Jaisinghani, Ph.D.
- 9 Named contact email: Priyanka\_Jaisinghani@baylor.edu
- 10 Review team members and their organizational affiliations: Priyanka Jaisinghani (Baylor University), Augustina Noel (Vinayaka Mission's Research Foundation) and Jithin Raj Balan (University of Texas at Austin)
- 11 Funding sources/sponsors: None

## Search Strategy

- 12 Condition or domain being studied: Cochlear Implant and Hearing Aid usage together leading to adverse outcomes
- 13 Review question: Prevalence of adverse outcomes by combination of cochlear implant and hearing aid use? Cause of interference with combined cochlear implant and hearing aid use?  
What are the outcome measures sensitive to interference?
- 14 Searches: Google Scholar, PubMed, ScienceDirect, Elicit, Semantic Scholar, and ComDIS Dome  
Search Dates: January 2000- December 2023
- 15 Participants/population: Human subjects  
Individuals using cochlear implant and hearing aid combination  
Parents of children using cochlear implant and hearing aid combination  
Audiologists handling patients using cochlear implant and hearing aid combination
- 16 Intervention(s), exposure(s): Cochlear Implant and Hearing aid combination as in Bimodal Hearing or Electric-Acoustic Stimulation
  - a) The studies must involve human subjects.
  - b) The studies must examine behavioral outcomes related to auditory, speech, or music, with the use of combined (CI+HA) technology in EAS or bimodal, CI alone, and HA alone.
  - c) The articles must examine parents' or patients' attitudes and communication with the use of combined CI alone and HA alone technology.
  - d) The articles should focus on or mention signal interference between CI and HA.
  - e) The articles must report the adverse outcomes of bimodal or EAS.
  - f) The articles must report the possible causes of discontinued HA use in bimodal listeners.
  - g) The articles must be peer-reviewed and published between 2000 and 2023.
  - h) The articles must be written in the English language.
- 17 Exclusion Criteria: The review's exclusion criteria will be as follows:
  - a) Articles that discussed all cases with bimodal benefit.
  - b) Review articles, case studies, editorials, editor letters, and commentaries.
  - c) Articles that focused only on bilateral cochlear implants or bilateral hearing aids.
  - d) Articles published after December 2023.
  - e) Unpublished papers.
- 18 Search keywords and boolean operators: Keywords  
Bimodal |OR Bimodal Cochlear implant OR Bimodal hearing AND Benefit  
Electroacoustic stimulation |OR Electric-acoustic stimulation OR Hybrid Implants AND Benefit  
Bimodal interference |AND Benefit



## Analysis/Synthesis

- 19 Themes: The review will report findings in following domains:
1. Prevalence of interference with combined CI and HA use
  2. Cause of Interference
  3. Consequences of interference
  3. Measures suggested to avoid interference
  4. Outcome measures sensitive to interference
  5. Measures to increase benefit in combined CI and HA technology