


Cochlear Implants for Sensorineural Hearing Loss

Medicare Evidence Development & Coverage Advisory Committee

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Review Team

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Today's Presentation

- The medical and surgical aspects of cochlear implantation
- Assessing candidacy of patients for cochlear implants
- AHRQ technology assessment
- Presentations from stakeholders and members of the public
- MEDCAC panel deliberation



Questions for the MedCAC include Voting and Discussion

- Scale for Voting Questions
 - **High confidence** “5”
 - “4”
 - **Intermediate confidence** “3”
 - “2”
 - **Low confidence** “1”

Panel Questions



Panel Questions

- The questions below all refer to the use of cochlear implant(s) in adults with bilateral sensorineural, moderate to profound hearing loss who demonstrate limited benefit from amplification. Definitions of terms included in these questions are:
- Limited benefit from amplification is defined by the correct test scores noted in the questions below, obtained with the best aided listening condition on tape or otherwise recorded tests of open-set sentence recognition.
- Health outcomes include symptom status, functional abilities and health related quality of life. In your discussions please note if your conclusions apply only to specific outcomes or more broadly.

Panel Question 1

- How confident are you that there is adequate evidence to determine whether or not a unilateral (i.e. first) cochlear implant improves health outcomes for adults with hearing loss who have demonstrated a test score of:
 - a. $>40\%$ and $\leq 50\%$
 - b. $>50\%$ and $\leq 60\%$

Panel Question 1 Discussion

Is there an absolute or relative change in test scores that indicates a clinically meaningful difference in health outcomes for this population?



Panel Question 2

- If the result of Question 1 is at least intermediate (mean vote ≥ 2.5) for either range of correct open set sentence recognition scores noted above, how confident are you that a unilateral (i.e. first) cochlear implant improves health outcomes for adults with hearing loss who have demonstrated a test score of :
 - a. $>40\%$ and $\leq 50\%$
 - b. $>50\%$ and $\leq 60\%$

Panel Question 2 Discussion

Are there any specific factors, other than test scores (e.g. anatomy, duration of hearing loss, characteristics of facilities/care providers, etc.), that can aid in the identification of those individuals most likely to attain improved health outcomes?



Panel Question 3a.

How confident are you that there is adequate evidence to demonstrate whether or not the use of bilateral cochlear implants as compared to a unilateral cochlear implant improves health outcomes?



Panel Question 3b.

If the result of Question 3a is at least intermediate (mean vote ≥ 2.5), how confident are you that the use of bilateral cochlear implants as compared to a unilateral cochlear implant improves health outcomes?

* If the answer to question 3b is at least intermediate (mean vote ≥ 2.5), continue on to questions 4-9.

Panel Question 4

- How confident are you that there is adequate evidence to determine whether or not a sequential bilateral cochlear implantation as compared to a unilateral cochlear implantation improves health outcomes for adults with hearing loss who have demonstrated a test score in the ranges below ?
 - a. $\leq 40\%$
 - b. $> 40\%$ and $\leq 50\%$,
 - c. $> 50\%$ and $\leq 60\%$

Panel Question 5

- If the answer to question 4 is at least intermediate (mean vote ≥ 2.5) in any of the ranges noted, how confident are you that a sequential bilateral cochlear implantation as compared to a unilateral cochlear implantation improves health outcomes for adults with hearing loss who have demonstrated a test score in the ranges below?
 - a. $\leq 40\%$
 - b. $> 40\%$ and $\leq 50\%$
 - c. $> 50\%$ and $\leq 60\%$

Panel Question 6

- How confident are you that there is adequate evidence to determine whether or not a simultaneous bilateral cochlear implantation as compared to a unilateral cochlear implantation improves health outcomes for adults with hearing loss who have demonstrated a test score in the ranges below?
 - a. $\leq 40\%$
 - b. $> 40\%$ and $\leq 50\%$
 - c. $> 50\%$ and $\leq 60\%$

Panel Question 7

- If the answer to question 6 is at least intermediate (mean vote ≥ 2.5) in any of the ranges noted, how confident are you that a simultaneous bilateral cochlear implantation as compared to a unilateral cochlear implantation improves health outcomes for adults with hearing loss with test scores in the ranges below ?
 - a. $\leq 40\%$
 - b. $> 40\%$ and $\leq 50\%$
 - c. $> 50\%$ and $\leq 60\%$

Panel Question 8

- How confident are you that there is adequate evidence to determine whether or not a simultaneous bilateral cochlear implantation as compared to a sequential cochlear implantation improves health outcomes for adults with hearing loss who have demonstrated a test score in the ranges below?
 - a. $\leq 40\%$
 - b. $> 40\%$ and $\leq 50\%$
 - c. $> 50\%$ and $\leq 60\%$

Panel Question 9

- If the answer to question 8 is at least intermediate (mean vote ≥ 2.5) in any of the ranges noted, how confident are you that a simultaneous bilateral cochlear implantation as compared to a sequential cochlear implantation improves health outcomes for adults with hearing loss who have demonstrated a test score in the ranges below?
 - a. $\leq 40\%$
 - b. $> 40\%$ and $\leq 50\%$
 - c. $> 50\%$ and $\leq 60\%$

Panel Question 10

- What significant evidence gaps exist regarding the clinical criteria of individuals who should receive cochlear implants, either unilateral or bilateral?

Panel Question 11

- How confident are you that these conclusions are generalizable to:
 - a. The Medicare patient population?
 - b. Community based settings?



Thank you

