

EXECUTIVE SUMMARY

# Cochlear Implantation in Adults 65+



## Introduction

- An individual's health is the most important factor in determining their quality of life. Getting their hearing checked early cannot only reduce the risk of ear diseases but also the risk of dementia, depression, or anxiety – particularly in middle-aged and older adults with cognitive impairment.<sup>1</sup> Moreover the ability to hear well may improve both private and professional social interactions in middle-aged and older adults.<sup>2</sup> Therefore, ENT specialists should encourage their patients aged 50 years and older to regularly have their hearing checked. In the following, we are specifically referring to adults aged 65 years and older (hereinafter referred to as "adults 65+").

Age group

65+

Frequency of hearing screening

every 3 years

How can my patients get their hearing screened?

- online for free
- questionnaire
- hearing test

What can I do as a clinician?

- encourage hearing screening for all adults
- create awareness about hearing loss and adult hearing screening



## Key points

- Cochlear implantation improves speech perception scores and, thus, face-to-face communication and telephone communication in adults aged 65+ with moderate-to-profound sensorineural hearing loss.<sup>3</sup>
- Cochlear implantation may improve hearing and communication in adults aged 65+ up to the level of younger cochlear implant users.<sup>4</sup>
- Cochlear implantation is safe and well tolerated in adults aged 65+.<sup>5</sup> Cochlear implantation in adults aged 65+ appears to bear the same risks of perioperative complications as in other age groups.<sup>6</sup>
- Whenever possible, bilateral implantation should be considered. Bilateral implantation is recommended to ensure the best outcomes for adults aged 65+.<sup>7</sup>
- Adults aged 65+ with severe-to-profound asymmetric hearing loss may benefit from bimodal stimulation in both quiet and noise.<sup>8</sup>
- Adults aged 65+ with single-sided deafness may also show improved speech perception after cochlear implantation.<sup>9</sup>
- Adults aged 65+ with unilateral hearing loss or asymmetric hearing loss experience significant benefits in speech recognition, spatial hearing, and perceived abilities with cochlear implant use.<sup>10</sup>
- Adults aged 65+ may show benefit from improved localization with electric-acoustic stimulation in one ear and a hearing aid in the opposite ear.<sup>11</sup>
- Research suggests that cochlear implantation has a positive impact on the pace of cognitive decline in adults aged 65+ with profound hearing loss.<sup>12-14</sup> Further studies are needed to examine if and to which degree cochlear implantation has a positive impact on cognition.<sup>15,16</sup>
- Adults aged 65+ can achieve significant improvement in quality of life after cochlear implantation.<sup>17</sup>
- Adults aged 65+ can derive significant hearing and quality of life after cochlear implantation with an acceptable risk profile.<sup>18</sup>





## Selection criteria for adults aged 65+

- Postlingual severe-to-profound bilateral hearing loss<sup>19</sup>
- Postlingual moderate-to-profound hearing loss if hearing aids provide no or only limited benefit <sup>19</sup>
- Perilingual hearing loss depending on the individual's communication abilities <sup>19</sup>

## Assessment process

- A multidisciplinary cochlear implant team should conduct a comprehensive assessment of the candidate's hearing abilities, including medical, audiological, and communicative tests.<sup>19</sup>
- Cognitive screening is strongly recommended in cochlear implant candidates aged 65+ according to a HEARRING survey on older adults in 2023.

## Preoperative information and counselling

- The candidate receives thorough information and counselling about the entire cochlear implant treatment according to a checklist.<sup>19</sup>
- Candidates should have a clear understanding of the benefits and limitations of implantation. Expectations must be managed to ensure a positive outcome throughout the entire process.<sup>19</sup>
- Candidates' relatives and friends should be encouraged to become involved in pre- and post-implant management.<sup>19</sup> Especially in adults aged 65+, a support person is highly recommended according to a HEARRING survey on older adults in 2023.



## Surgery in-patient care

- The surgeon is responsible for the overall medical care of the patient throughout the patient's stay. After surgery, the surgeon will continue to monitor the patient's progress during the postoperative period.<sup>19</sup>
- An intra- and/or postoperative radiological examination to check the position of the device and the electrode array should be considered.<sup>19</sup>
- Local anaesthesia might be an alternative to general anaesthesia in adults aged 65+ undergoing cochlear implantation.<sup>20</sup>

## Postoperative care

- The audio processor should be fitted and programmed by experienced clinical personnel once the wound has healed satisfactorily.<sup>19</sup>
- The audio processor should be fitted and programmed only by experienced and specifically trained clinical personnel.<sup>19</sup>
- Remote fitting is an option in cochlear implant recipients aged 65+ who lack mobility according to a HEARRING survey on older adults in 2023.
- During initial programming, clinical personnel need to check external components, explain programming procedures and the use of the audio processor.<sup>19</sup>
- Postoperative rehabilitation tailored to the recipient's individual needs should begin right after initial fitting. This helps facilitate acclimatization to the new sensation of sound and outline the rehabilitation programme.<sup>19</sup>
- Appropriate standardized audiological, speech perception, and quality-of-life measures should be performed after initial programming, at least twice in the first year following surgery, and at regular intervals thereafter to allow progress to be monitored.<sup>19</sup>





## Follow-up

- The patient must have easy access to a cochlear implant centre (or a local service partner) for programming and rehabilitation.<sup>19</sup>
- Adequate spare parts and replacements of external equipment must be available. Audio processor batteries should be available to implant recipients either from the cochlear implant programme or from a local audiology department.<sup>19</sup>

## Device failure

- If an internal device failure is suspected, the user should be offered an appointment and the implant manufacturer contacted promptly.<sup>19</sup>
- The device failure must be reported to the relevant national health authorities.<sup>19</sup>

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