



EXECUTIVE SUMMARY

# Cochlear Implantation in Adults



Treatment process in patients referred to a cochlear implant centre

Preoperative Assessment

Medical

Audiological

Hearing and Evaluation

Communication

Psychological Status

Information + Counselling

Surgery and In-patient care

Multidisciplinary Team

Clinical Facilities

Postoperative care

Fitting + Tuning

Rehabilitation + Assessment

Follow-up + Long term Assessment





## Key points

- Cochlear implantation improves communication adults and older adults with moderate-to-profound sensori-neural hearing loss with little or no benefit from hearing aids (Kan 2018).<sup>1</sup>
- Cochlear implantation is safe and effective for adults and older adults (Van de Heyning et al. 2020).<sup>2</sup>
- A multidisciplinary team accompanies the candidate along the entire hearing journey from pre-operative assessment through rehabilitation and routine follow-up.
- Whenever possible, bilateral implantation should be considered. Bilateral implantation is recommended to ensure the best outcome for adults and older adults (Ehrmann-Müller et al, 2021).<sup>3</sup>
- Research shows that the ability to hear is important to counteract cognitive and psychosocial decline that is often associated with aging (Mertens et al., 2021).<sup>4</sup>
- Cochlear implantation enhances quality of life (Lassaletta et al., 2022).<sup>5</sup>
- Cochlear implantation facilitates music appreciation in adults with hearing loss (Nasresfahani et al., 2022).<sup>6</sup>



## Assessment process

- The multi-disciplinary cochlear implant team will conduct a comprehensive assessment of the candidate's hearing abilities. The assessment covers medical, audiological, communicative, and psychological tests.



## Preoperative information and counselling

- The candidate will receive thorough information and counselling about the entire cochlear implant treatment according to a checklist.
- 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 hearing journey. Candidates' relatives and friends should be encouraged to become involved in pre- and post-implant management.



## Treatment

- The surgeon is responsible for the overall medical care of the patient throughout the patient's stay in hospital. After surgery, the surgeon will continue to monitor the patient's progress during the postoperative period.
- An intra- and/or postoperative radiological examination to check the position of the device and the electrode array should be considered.
- The audio processor should be fitted and programmed by experienced clinical personnel once the wound has healed satisfactorily.
- Before initial programming, clinical personnel need to check external components, explain programming procedures and the use of the audio processor.
- Postoperative rehabilitation tailored to the recipient's individual needs should begin after initial fitting to facilitate acclimatization to the new sensation of sound and to outline the rehabilitation programme.
- The rehabilitation programme may include training in the detection of sound, including localization and spatial tests, auditory discrimination, voice quality, speech intelligibility, language comprehension and expression, lip reading, hearing tactics, and social skills.
- 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.



## Follow-up

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



# References

<sup>1</sup> [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5949926/pdf/10.1177\\_2331216518772963.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5949926/pdf/10.1177_2331216518772963.pdf)  
<sup>2</sup> <https://www.tandfonline.com/doi/pdf/10.1080/14670100.2020.1735678?needAccess=true>  
<sup>3</sup> <https://pubmed.ncbi.nlm.nih.gov/33591069/>  
<sup>4</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8088820/pdf/aud-42-606.pdf>  
<sup>5</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8909702/pdf/ijerph-19-02503.pdf>  
<sup>6</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9119654/pdf/ijo-34-171.pdf>  
Based on: [https://www.hearing.com/wp-content/uploads/2019/10/2-Quality\\_Standards\\_for\\_Cochlear\\_Implantation\\_in\\_Adults\\_and\\_Older\\_Adults.pdf](https://www.hearing.com/wp-content/uploads/2019/10/2-Quality_Standards_for_Cochlear_Implantation_in_Adults_and_Older_Adults.pdf)

