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## good practice in rehab after CI in adults




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**Bosenberg Kliniken St. Wendel Germany**

- ENT rehab 132 beds
- 1600 HOH Pat 2021
- barrier - free for HOH and CI-Patients

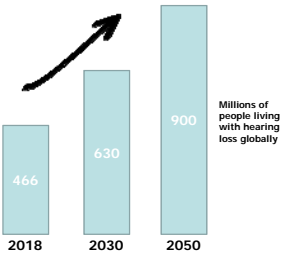




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## Global burden of hearing loss


- Hearing loss is one of the leading causes of overall disability worldwide
- Globally, approximately **466 million** adults and children (**6%**) have a disabling hearing loss
  - This is projected to rise to **630 million** by 2030 and to **over 900 million** by 2050
- Hearing loss has a substantial impact on people's lives (e.g. communication difficulties and reduced well-being<sup>1</sup>)



1. World Health Organization. Addressing the rising prevalence of hearing loss. 2018. Available from <https://apps.who.int/iris/handle/10665/280156> (Accessed June 2019)

## Cochlear implant use in adults

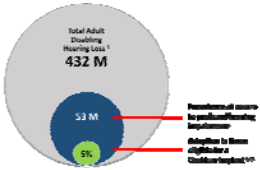
- Cochlear implantation has now been available for more than 30 years in many countries
- Cochlear implants (CIs) are the **standard of care** for **newborns** with severe to profound sensorineural hearing loss (SNHL) in many developed countries
  - In children, penetration of CIs is high
- In **adults**, cochlear implantation is often only considered when there is no benefit from hearing aids
  - Many adults who could benefit from CIs do not receive them
  - As in children, CI use in adults has potential to become the **standard of care**



1. World Health Organization. Deafness and hearing loss. Available from <https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss> (Accessed July 2019)

## What do we know?

Benefits have been demonstrated but adoption is low



- Adults using CIs **experience improvements** compared with hearing aid only or no treatment, in terms of:
  - **speech perception**<sup>6,7</sup>
  - **educational<sup>8</sup> and employment<sup>9</sup> opportunities**
  - **quality of life**<sup>5,10</sup>
- CIs have been shown to be **cost effective**<sup>11</sup>
- However, penetration of CIs in eligible adults is as low as 5%

<sup>1</sup>Global adult hearing loss (2018)  
<sup>2</sup>Global adult hearing loss (2018)  
<sup>3</sup>Global adult hearing loss (2018)  
<sup>4</sup>Global adult hearing loss (2018)  
<sup>5</sup>Global adult hearing loss (2018)  
<sup>6</sup>Global adult hearing loss (2018)  
<sup>7</sup>Global adult hearing loss (2018)  
<sup>8</sup>Global adult hearing loss (2018)  
<sup>9</sup>Global adult hearing loss (2018)  
<sup>10</sup>Global adult hearing loss (2018)  
<sup>11</sup>Global adult hearing loss (2018)

## Aims and possibilities

- improving outcomes for people with hearing loss
- Discovery of the hearing world.
- Not only speech and syllables
- But the whole nonverbal world
- What about music
- What about natural sounds

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## patient`s rights preoperation



- All explanation before decision to the operation
- The whole process including aftercare
- The whole way with CI must be clear before using the knife.
- Who is the surgeon
- Who belongs to the rehab team
- Frequency of appointments ( CI engineer, speech therapist)
- What time is needed.
- What are the average results expected.



## Life quality ( sections)



- Professional area ( What about my job ?)
- Self acceptance ( we stay deaf !)
- Listening strategy
- Social participation
- Free time activities
- Ways out of isolation



## Learning Steps of hearing need pedagog skills



- Sounds
- Instruments
- Voices (Male, female)
- Words with theme
- Words without theme
- Words with lipreading
- Word without lipreading
- 2 syllables
- Minimal pairs
- E.g. rhyme - time      feet-seat



## Stages of hearing 2



- Hearing in silence
- Hearing in noisy envirement , room acoustic, party effect.(high school of hearing)
- Without lipreading,
- Phone, communications systems, additional devices.
- Music, natural sounds







## Hearing training group




- Understanding each other (creating a basis for communication)
- Getting to know different ways of speaking and dialects
- Adapting to changing conversation partners
- Improving one's own articulation in the mirror of the group. How am I understood?
- Recognising and respecting the communicative needs of others Listening with and without technical accessories (FM system)
- Learning to use technology together Holistic communication.
- listening tactics, conversation structure, feedback procedure

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**Special CI concepts Bosenberg** MEDICLIN 

- Hybrid Stimulation / EAS
- SSD
- Ertaubung und Tinnitus (Trigger)
- Morbus Menière Disease
- Usher-Syndrom (Hör- und Sehstörungen)
- *Acousticus neurinoma*
- *Deafness / sign language*
- *speech to text interpreter.*




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*Thank you for your attention*

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