# Monaural Hearing

ded Deafness (SSD)

# **Cochlear Implants for Single-Sided Deafness: Expert Web Series**

Today, we're excited to share three fantastic seminars from our Expert Web Series from the MED-EL Academy. This 3-part course for professionals focuses on candidacy, factors for success, benefits of binaural hearing, and long-term outcomes in cochlear implants as a treatment for single-sided deafness.

The Expert Web Series is a series of comprehensive e-learning courses featuring hearing implant experts from the HEARRING Network.

We created the Expert Web Series to share in-depth research and connect surgeons, audiologists,

clinicians, and researchers to the latest developments in the field of hearing implants.

## **Cochlear Implantation in Single-Sided Deafness**

In today's Expert Web Series course, you will learn about different considerations in cochlear implantation in single-sided deafness. You will hear from three different experts on the topic.

- Prof. Dr. Griet Mertens from the Antwerp University Hospital shares experiences implanting profoundly SSD patients with tinnitus.
- Prof. Dr. Dayse Tavora from Fiona Stanley Hospital in Perth, Australia focuses on mapping and rehabilitation considerations in CI users with SSD.
- Prof. Margaret Dillon from the University of North Carolina at Chapel Hill discusses spatial hearing and quality of life in adults with cochlear implants for SSD.

### Learning objectives:

- Explain the important considerations when mapping a cochlear implant recipient with SSD
- Identify the different treatment options for SSD
- Explain the factors that need to be considered when implanting patients with SSD and incapacitating tinnitus
- Identify at least 5 potential variables that may contribute to performance of cochlear implant recipients with SSD

Ready to get started? You can watch all three full lectures below, or you can register for the MED-EL Academy to go through this Expert Web Series course there and earn a certificate of completion.

# **Long-Term Tinnitus Suppression and Spatial Hearing**

In part 1, Prof. Dr. Griet Mertens shares 10+ years of outcomes in cochlear implants in single-sided deafness, with a focus on the effectiveness of tinnitus suppression and objective benefits of binaural hearing.

- Clinical definitions of single-sided deafness and asymmetrical hearing loss
- Candidacy for cochlear implants in single-sided deafness
- HEARRING unified testing framework for SSD
  - Speech perception in noise testing
  - Sound localization testing
  - Quality of life questionnaire
  - Tinnitus questionnaire
- Using visual analog scale to measure chronic tinnitus burden
- Long-term patient acceptance of CI system
- Stable long-term benefits in tinnitus suppression with cochlear implant
- · Benefits of binaural hearing
  - Summation effect

- Squelch effect
- ∘ Head-shadow effect
- Spatial release from masking
- Improved sound localization with binaural hearing

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### **Mapping and Rehabilitation in Single-Sided Deafness**

In part 2, Prof. Dr. Dayse Tavora shows us how to tailor CI maps for single-sided deafness and why it's so essential to actively train the implanted ear with individualized rehabilitation.

- Mapping a cochlear implant for single-sided deafness, including loudness balancing
- Creating a map for actively training the CI ear using Direct Audio Input.
- Benefits of wide frequency range and more natural sound quality
- Using cortical auditory responses to fine-tune maps
- Effects of duration of deafness on cortical response
- The importance of keeping patients engaged & using their CI
- Individualizing the rehabilitation plan for each patient

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# **Hearing Outcomes and Quality of Life**

In part 3, Prof. Dr. Margaret Dillon provides an in-depth research discussion of subjective and objective results in patients with a cochlear implant for single-sided deafness.

- Speech perception aid & unaided, in comparison to normal ear
- Significant improvement already at 1 month
- Effects of noise presented at the implanted ear
- Quality of life benefits
  - Ease of communication
  - Effectiveness in background noise
  - Reverberation
  - Aversiveness
- Speech, Spatial, & Qualities of Hearing subscales
- Benefits in tinnitus suppression
- Potential advantages of long electrode arrays and Fine Structure Processing
- Importance of consistent processor usage and realistic expectations

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## How to Register for the MED-EL Academy

Ready to see more of the Expert Web Series?

You can sign up right now for the MED-EL Academy and get access to tons of great online resources for professionals.

- Instant access—100% free
- Expert webinars & training
- Professional certificate programs
- Ideal for ENTs, surgeons, audiologists, clinicians, & more

Right now, there are four comprehensive courses available in the Expert Web Series:

- Cochlear Implantation in Single-Sided Deafness
  - Prof. Dr. Griet Mertens, Prof. Dr. Dayse Tavora, Prof. Dr. Margaret Dillon
- Follow-up Program for Children with Cochlear Implants and Hearing Aids
  - o Prof. Dr. Wafaa Shehata-Dieler; Dr. Heike Kühn
- Surgical Considerations in Cochlear Implantation
  - Prof. Dr. Paul Van de Heyning; Dr. Brendan O'Connell
- Cognitive Functions of Older Cochlear Implant Recipients
  - Prof. Dr. Paul Van de Heyning

Of course, there's tons of other great materials for professionals on the MED-EL Academy, check it out now!

### Subscribe & Share

Looking for an overview of the benefits of binaural hearing and cochlear implants for single-sided deafness? Check out this helpful guide—including a video simulation we created using 3D binaural microphones to compare single-sided deafness and binaural listening.

Binaural Hearing: Cochlear Implants & Single-Sided Deafness

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