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Cochlear Implants – when hearing aids don't help

Abstract

Hearing loss is a very common disorder all over the world. The WHO estimates that nearly 2.5 billion people will suffer from some degree of hearing loss by 2050 and more than 700 million will require hearing rehabilitation.

Hearing loss is classified by degree (mild to profound), by type (conductive, sensorineural or mixed), by configuration, onset, stability and timing.

People with severe sensorineural hearing loss can benefit from a cochlear implant.

A cochlear implant sends sounds past the damaged part of the ear straight to the hearing nerve and stimulates the nerve electrically.

Therefore, the sound signal has to be processed into an electrical signal in the audio processor. The processor sends this signal via an inductive link through a coil to the implant. An electrode array placed in the scala tympani of the cochlea is used to bring the electrical stimuli to the cochlear nerve.

A patient specific electrode configuration is useful to reach the different frequency locations within the cochlea.

Anatomy based fitting can further improve the sound impression and speech understanding.

Robotic tools can nowadays be used to further improve structure preservation during surgery.

CV

- geb. 26.01.1971 in Mutlangen
- verheiratet 2 Kinder
- Studium an der TU München Maschinenwesen und FH München Fachbereich Feinwerk- und Mikrotechnik / Medizintechnik
- Abschluss als Dipl.-Ing. (FH)
- 2 Jahre Vertriebsingenieur bei Medizin Elektronik Lüneburg
- seit 2000 bei MED-EL Deutschland GmbH als Clinical Engineer im Bereich Cochlea Implantat Systeme
- seit 2004 bei MED-EL Deutschland GmbH als Regional Manager Cochlear Implants für den Bereich Süddeutschland und Schweiz
- seit 2010 Senior Regional Manager bei MED-EL Deutschland GmbH, Mitglied im Senior Management, Personalführung