

where the cell sheet were transplanted. No recurrence of choleateatomas were seen.

*Conclusion:* This is the first clinical study approved from the Ministry of Health, Labour and Welfare in Japan. Furthermore this is a first-in-man study in the world that the cultured cells were transplanted to the human ear. This novel technology of transplantation might be an effective alternative to the surgical operation on intractable otitis media in the near future.

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## What is new in Otology (R814)

**ID: 814.5**

### Management of patients with symptoms related to raised intracranial pressure

Presenting Author: **Patrick Axon**

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*Learning Objectives:* Understanding the relationship between raised intracranial pressure and oto-neurological symptoms.

Raised intracranial pressure (ICP) is often managed by neurologists and neurosurgeons based on the severity of symptoms. Patients who have very high ICP (idiopathic intracranial hypertension - IIH) are dominated by headache, lethargy and visual disturbance. Closer questioning, however, reveals a multitude of ENT symptoms including pulsatile tinnitus, imbalance, facial pain and hearing disturbance.

This presentation discusses management of the otological manifestations of raised ICP and presents early evidence that raised ICP not only is a cause of meningoencephalocele and CSF otorrhoea but could also play a role in the development of superior semicircular canal dehiscence.

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## Implantable hearing devices (N815)

**ID: 815.1**

### Treatment of Single-Sided Deafness and Asymmetric Hearing Loss in Adults

Presenting Author: **Susan Arndt**

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*Learning Objectives:* Cochlear implantation treatment is significantly superior to alternative therapy options (Bi-/CROS and BCI) in terms of speech comprehension in background noise and sound localization.

In the past, unilateral hearing loss had not been perceived as a severe handicap. However, our research results show that, despite a normal hearing capacity in one ear and the ability to understand language in quiet surroundings, patients suffering from single-sided deafness (SSD) and asymmetric hearing loss (AHL) experience significant challenges in various everyday situations. This is particularly evident when the language reaches the deaf ear in additional background noise.

The limitation of the auditory function may result in a fatigue due to increased listening effort and can have a major impact on psychosocial factors. Furthermore, the localization capacity is significantly limited, as bilateral hearing is mandatory for spatial hearing. Thus, treatment of single-sided deafness has to become a relevant issue.

Patients with SSD and AHL can be rehabilitated with conventional CROS or Bi-CROS systems (contra-lateral routing of signal), bone anchored hearing systems or with a cochlear implant (CI). The indications and results of the different treatments are presented.

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## Implantable hearing devices (N815)

**ID: 815.2**

### Indications and surgical coupling techniques of active middle ear implants

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*Learning Objectives:* Active middle ear implants; Hearing loss.

During the last years, indication range for active middle ear implants (AMEI) has been widely extended. Originally, AMEI were indicated in patients with sensory neural hearing loss. Due to new coupling strategies, these days also patients with conductive and mixed hearing loss can be provided with AMEI. Therefore, these systems are also indicated in cases such as chronic otitis media and/or ear malformations etc.

Using recently introduced coupling techniques, AMEIs may be adapted to ears with an intact ossicular chain and in cases with partially or complete missing ossicles. According to the remaining middle ear structures, the mechanical transducers of AMEIs may be adapted to different ossicles (incus, stapes) or to structures such as the oval or the round window. We will discuss advantages and disadvantages of different implants such as systems with one or two point fixation. Also, the various surgical techniques to place and adapt the transducers to middle ear structures will be addressed.

The post-operative outcome will be presented and we will finish up with a discussion of our experiences with the audience who might have had patients with similar conditions or different pitfalls.