

ME-cleft is shown (important for the functional prognosis) and important preoperative landmarks warn the surgeon for eventual pitfalls.

The advent of the non-EP diffusion weighted sequence in MR-imaging makes this sequence a very useful adjunctive tool in the pre-op work-up of cholesteatoma cases specially in cases suspected of intralabyrinthine spread, or extension medial to the otic capsule or intracranial invasion. Its today almost undisputed value has been demonstrated in the postoperative follow-up of cholesteatoma by the high sensitivity and specificity (in most studies well above 90%). By this innovation many “unnecessary” (because absence of residual pathology) second stage operations can today be avoided. Advantages and limitations of the two imaging techniques will be discussed.

An algorithm usefull in clinical practice will be proposed

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## Percutaneous and transcutaneous BCHD (V677)

**ID: 677.1**

### Implantation technique of the semi-implantable transcutaneous bone conduction hearing device Sophono

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*Learning Objectives:*

*Introduction:* Patients with air bone gaps can be treated with bone conducting hearing aids. The disadvantages of the conventional and percutaneous systems are the obvious external fixation components or the biological and psychosocial problems of open implants. This project was set up to develop a semi-implantable transcutaneous bone conducting device, introduce it into clinical application and follow-up on the results.

*Material and Method:* The principle of this bone conducting device is the magnetic coupling between implanted and external magnets. After extensive lab tests it was introduced clinically in 2006. Since then there have been performed more than 300 implantations in Recklinghausen and more than 3000 worldwide.

We will demonstrate different implantation techniques: The “classical” one and the Up-Side-Down-Technique” and discuss pros and cons of each.

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## Percutaneous and transcutaneous BCHD (V677)

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### Bone Conduction Implant, clinical trial of a new transcutaneous implant and results so far

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*Introduction:* The bone conduction implant (BCI), is a new active transcutaneous hearing implant with a transducer surgically implanted under intact skin.

We present the surgical procedure and the results so far of a multicentre clinical trial of this novel device.

*Patients and Methods:* 11 patients aged 18–67 years at 2 academic university hospitals in Sweden have been recruited and implanted with the BCI.

All patients have a mild to moderate conductive or mixed hearing loss and underwent audiometric assessment as well as completed abbreviated profile of hearing aid benefit (APHAB) and Glasgow benefit inventory (GBI) questionnaires. Results presented here are from the 6 month follow up the first 6 patients. As a reference device, a Ponto Pro Power (Oticon Medical) was used on a softband for a month prior to surgery.

All patients then underwent placement of the BCI device under general anaesthesia. The device was switched on at 1 month post surgery and audiometric assessment was repeated.

*Results:* The surgical procedure was uneventful with no immediate adverse events.

The BCI had a statistically significant improvement over the unaided condition with a pure-tone-average improvement of 31.0 dB, a speech recognition threshold improvement in quiet (27.0 dB), and a speech recognition score improvement in noise (51.2 %). At speech levels, the signal-to-noise ratio threshold for BCI was - 5.5 dB. All BCI results were better than, or similar to the reference device results, and the APHAB and GBI questionnaire scores showed statistically significant improvements versus the unaided situation.

*Conclusion:* The BCI provides significant hearing rehabilitation for patients with mild-to-moderate conductive or mixed hearing impairments, and can be easily and safely implanted under intact skin.

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## Long-term results of chronic ear surgery (R711)

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### Long-term outcome obliteration of radical cavities with autogenous cortical bone

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