

hearing improvement. Surgical approach included FMT placement in the direct proximity of the round window membrane. We discussed the indications, contraindications and limitations of use of Vibrant Soundbridge in this group of patients.

*Results and conclusions:* Direct stimulation of the round window is an alternative method of treatment in selected group of patients with hearing impairment and mild to severe destruction of the middle ear elements. In all cases subjective hearing improvement was noticed and confirmed in audiological tests. The benefits of Vibrant Soundbridge use are significant.

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### Free Papers (F664)

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#### **Cholesteatoma and Retraction pockets in Cochlear Implantation and their Management**

Presenting Author: **Hannah North**

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*Learning Objectives:* Management of cholesteatoma in auditory implants Management of retraction pocket disease in auditory implants.

*Introduction:* Cholesteatoma is a rare condition. In the presence of an auditory implant, the principal concern is damage to the internal device either through the disease process or through surgery to remove the disease.

*Methods:* A retrospective analysis was performed all implant recipients at the Richard Ramsden Centre for Auditory Implants and the management of patients with a retraction pocket or cholesteatoma was reviewed.

*Results:* Five patients with cochlear implants were identified with cholesteatoma – one adult and four paediatric patients. Four presented with otorrhoea and wound breakdown, one was an incidental finding of congenital cholesteatoma at time of implantation. Two patients required device replacement, one was removed without reimplantation. Cholesteatoma was managed by canal wall down mastoidectomy and blind sac closure.

Five patients were identified with retraction pockets – two adults, one adolescent, two paediatric patients. Two presented with recurrent otorrhoea and were managed with cartilage tympanoplasty to cover exposed electrodes. Two presented with imbalance and one was noted as an incidental finding. These three patients were managed conservatively with recurrent microsuction in the outpatient clinic. None of these patients required removal of reimplantation of their device.

*Conclusions:* Device failure or damage is common in cholesteatoma either as a result of disease itself or surgery. Reimplantation should occur at time of electrode explantation where possible to prevent obliteration of the cochlear duct. Cochlear implants in retraction pockets generally do not result in device failure and require surgical intervention only if symptoms dictate.

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### Free Papers (F664)

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#### **VORP 503 in mixed hearing loss and radical cavities**

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*Learning Objectives:* Vibrant Soundbridge VORP 503, Round Window Soft Coupler, radical cavities.

The Vibrant Soundbridge VORP 503 is an active middle implant, which could be coupled at the ossicle chain or directly onto the round window membrane. The Round Window Soft (RWS)-Coupler is a silicone coupler and connects the Floating mass transducer to the round window membrane without any interposition of artificial fascia. The VORP 503 is now simply fixed at the bone with two screws.

We present the results of patients with radical cavities, which had several tympanoplasties for hearing restoration in the past. All of them were implanted with a VORP 503 using a RWS-Coupler.

The postoperative audiological tests showed good results by aided pure tone audiogram, monosyllabic speech test and sentence test in noise. The VORP 503 and RWS-Coupler made coupling to round window membrane easier and more precise. The results are better comparable between different surgeons.

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### Mastoid reconstruction (R666)

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#### **Mastoid reconstruction using autologous materials**

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*Learning Objectives:* Mastoid defects are commonly found during surgery for chronic otitis media, temporal bone tumors, or trauma. Without repairing defects of the external auditory canal or scutum, cholesteatoma or chronic infection may develop. Encephaloceles can occur if tegmen defects are not adequately repaired. Autologous materials can be used to repair these defects with the benefit of less tissue reaction, availability of tissue, and less cost. Cartilage with or