fillers, ablation (canal closure) or external canal wall (EAC) reconstruction. The latter is preferred, to facilitate reinspection for residual disease, if necessary.

Canal wall repairs require reconstruction of a stable and durable, precisely shaped and fitted support layer, healthy overlying skin and a vascular intermediate layer to nourish the skin and protect the support layer.

This presentation demonstrates the use of titanium sheeting in this role, in conjuction with the middle temporal flap, whiach has been the basis for optimal long term success.

The surgery employs six phases;

1. Transcanal flap creation and clearance of disease from the stapes and its surrounds.
2. Postaural incision and creation of the middle temporal flap.
3. Clearance of cavity disease, retaining skin flaps for the EAC repairs. Creation of zygomatic root and facial ridge retention grooves. Shaping and sizing the titanium sheeting, using an aluminium foil template.
5. Reconstruction of the hearing and canal wall components.
6. EAC packing and wound closure.

Titanium sheeting has proven a highly effective canal wall repair method with no complications in a series of 35 cases, but mesh was less effective and is not recommended. Second stage surgery is recommended when the cavity lining is fragile, and residual disease possible.

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Mastoid reconstruction (R666)

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Principles of mastoidectomy reconstruction

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Introduction: Cholesteatoma surgery aims to eliminate disease, restore function, and avoid complications. Open cavity surgery is commonly complicated by ongoing problems that may result from failure to achieve one or several of these aims, e.g. poor disease clearance, failed epithelial migration, or ischemia-related infection.

The aim of wall reconstruction is to reverse these problems as far as is practicable. The essentials to achieve this are a well-fitted, durable, biocompatible wall support layer, healthy skin and a restored vascular supply.

Method: Recreating the support layer requires a suitably tensile and biocompatible material that can be readialy shaped and curved, remaining durable in the long term. Where possible, full skin coverage is desirable to facilitate EAC healing. Long term stability requires a well-designed vascular supply to nourish the skin; the middle temporal flap has the best theoretical and demonstrable vasculature for this role.

Wall assembly by conventional tympanoplasty methods druing reconstruction is difficult, due to space constraints. An alternative "front-to-back" skin-flap-support layer sequence is optimal, preceded by the appropriate drum/chain repair.

Outcomes: The results of previous techniques exhibted difficulties related to the design of each. The use of titanium sheeting appears to have overcome the problems of biocompatibility, shaping and stability. The middle temporal flap has succeeded in restoring vascular supply and canal skin health.Recreation of the EAC lumen dimensions to a more normal diameter without obstructing protrusions largely restores epithelial migration. Restoration of hearing depends on the middle ear pathology and Eustachian function, as in routine tympanoplasty. This pathology is severe in many of these cases.

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Tympanoplasty: How I do it (1) (V667)

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Simple underlay myringoplasty

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Learning objectives: Understand the detail of the procedure of SUM and its advantages, including simplicity of technique, a high rate of closure of the perforation and very low incidence of complications.

Introduction: Simple underlay myringoplasty (SUM) has been widely performed over the last 26 years in Japan as a less invasive procedure of myringoplasty than conventional methods. SUM has been gradually recognized in the world since the detail of the procedure had been introduced into instruction courses in AAO-HNS for the last 9 years.

Methods: A transcanal approach is applied. No skin incision is necessary except to harvest subcutaneous connective tissue for the graft from the retro-auricular region. After the topical anesthesia of the tympanic membrane, the perforation edge is removed for both the debridement and the vascularization to the graft. The pressed graft is inserted into the tympanic cavity through the perforation, and then the graft is elevated to touch the perforation edge. The graft is fixed to the tympanic membrane with a little fibrin glue. Packing is not necessary either in the tympanic cavity or in the external auditory canal. The surgery is performed under local anesthesia except in cases with children because thirty minutes is sufficient to accomplish the surgery for one ear by this method. For the persistent perforation after this method, re-closure is attempted in the outpatient clinic by the same procedure using frozen autologous tissue which has been harvested in the initial surgery.

Results: The rate of initial closure was 478/621 (77.0%). Overall success rate after the re-closure was 595/621 (95.8%). There was no significant difference of the success