

Learning Objectives: Teaching the complex anatomy of the middle ear has always been a challenge. Textbook drawings and diagrams often fail to show the intricate 3D relationships of the various structures.

The Sydney Endoscopic Ear Surgery (SEES) Research Group has produced a series of videos looking specifically at the anatomy of this region, as visualized with new endoscopic techniques. The endoscope enables an incredible view of areas, such as the retrotympaanum, previously hidden by microscopic techniques.

Each video looks at a specific area of the middle ear and describes its anatomical relationships and clinical correlation. The videos will be available as a free online resource to anyone wishing to use them.

This presentation will demonstrate key parts of the video series and discuss in a broader context how the endoscope has improved trainee education of ear anatomy.

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Endoscopic Ear Surgery: Concept and Technique 2 (V867)

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Transcanal Endoscopic Ear Surgery for Lateralized Tympanic Membrane and Medial Meatal Fibrosis

Presenting Author: **Tsukasa Ito**

Tsukasa Ito, Tomoo Watanabe, Sayuri Nakajima, Toshinori Kubota, Takatoshi Furukawa, Kazunori Futai, Seiji Kakehata

Yamagata University Faculty of Medicine

Learning Objectives: Techniques for surgical treatment of LTM and MMF with TESS.

Introduction: The lateralized tympanic membrane (LTM) and medial meatal fibrosis (MMF) are conditions in which the visible surface of the tympanic membrane (TM) is located lateral to the bony annular ring. While the TM is out of position in each condition, the causes differ for the lateralization and the final position of the TM layers. Specifically the LTM loses contact with the ossicular chains while MMF is characterized by acquired atresia with fibrous tissue in the medial part of external auditory canal. Treatment of LTM and MMF presents challenges, in part due to difficulties in visualizing the affected site. Our unit has worked on developing a treatment protocol which incorporates and extends current treatment approaches as well as incorporates the use of the endoscope to achieve a less invasive approach with improved visualization of the affected site.

Methods: Transcanal endoscopic ear surgery (TEES) was used to treat both LTM and MMF using a rigid endoscope with an outer diameter of 2.7 mm coupled to a full HD system. A cross-shaped incision is made across the TM surface and four skin flaps are elevated to exposure the pathology. LTM is treated by removing the mucosa from the ear

canal wall and grafting the TM perforation with fascia to the anterior part of tympanic annulus using the underlay technique. MMF is treated by removing the fibrous tissue from the bony ear canal and the TM lamina propria. The lamina propria and denuded bone is covered with split-skin grafts. Both conditions require canalplasty using a curved bur for complicated bony canal stenosis.

Results: Endoscopes allow for greater overall visualization which is a significant advantage in the surgical treatment of LTM and MMF particularly around the tympanic annulus.

Conclusions: Surgical treatment for LTM and MMF via TEES is an effective and less invasive procedure.

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The Diagnosis and Treatment of Middle Ear Cholesteatoma with Tuberculous Otitis Media Co-infection: A Series of 11 cases

Presenting Author: **Franco Louie Abes**

Franco Louie Abes¹, Generoso Abes², Teresa Luisa Gloria-Cruz³, Cecilia Montalban⁴

¹Manila Doctors Hospital; University of Santo Tomas Faculty of Medicine and Surgery; Asian Hospital and Medical Center; University of the Philippines National Institutes of Health Philippine National Ear Institute, ²Manila Doctors Hospital; University of the Philippines Philippine General Hospital - Department of Otorhinolaryngology; University of the Philippines National Institutes of Health Philippine National Ear Institute, ³University of the Philippines Philippine General Hospital Department of Otorhinolaryngology; University of the Philippines National Institutes of Health Philippine National Ear Institute, ⁴Manila Doctors Hospital

Introduction: Tuberculosis is thought to be an endemic disease in the Philippines wherein there have been a number of documented tuberculous otitis media (TOM) cases. The suspicion of TOM co-infection among patients with cholesteatoma of the middle ear (CME) has led to this investigation.

Objectives: 1.) To describe the clinical features and the treatment outcomes of patients with CME and co-existent TOM. 2.) To compare the features of TOM with CME to that of TOM without cholesteatoma.

Study Design: Retrospective review of cases.

Setting: Tertiary private hospital.