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ID: IP072**A New Simple Radiological Scoring System for Classifying the Tegmen of the Mastoid**Presenting Author: **Sherif Idris**Sherif Idris, Youness Elkhaldy, Ravi Bhargava, Allan Ho
*University of Alberta**Learning Objectives:*

1. Variations in normal tegmen and inner ear anatomy.
2. Surgical considerations when operating near the tegmen.

Introduction: The tegmen is a thin, variable plate of bone that separates the mastoid and middle ear cavity from the intracranial compartment. Because of its location, serious complications such as cerebrospinal fluid leakage and neural tissue damage may arise when operating near the tegmen. One important risk factor for dural complications is low placement of the tegmen. This study aims to determine the radiographic location of the tegmen tympani using the lateral semicircular canal as a landmark in adult patients with normal temporal bones.

Methods: 100 high resolution temporal bone CT scans from patients worked up for hearing loss were examined retrospectively. We included scans from adult patients with normal temporal bone anatomy and no previous ear surgery. The distance between the lateral semicircular canal and the lowest point of the tegmen tympani was measured in both the sagittal and coronal planes. 60 patients with cholesteatoma having undergone mastoidectomy procedures within the past 6 years were also analyzed retrospectively.

Results: The mean tegmen height was 4.1 mm in the coronal plane and 2.5 mm in the sagittal plane. The measured heights demonstrated a unimodal distribution with some variance.

Conclusions: We propose a simple and practical tegmen classification scheme. Tegmens below 4.5 mm on coronal measurement and 2.5 mm on sagittal measurement are considered "low" (type A) whereas tegmens above these parameters are considered "high" (type B). This classification system applied to preoperative temporal bone CT might influence planning of middle ear and mastoid surgery. For instance, from our retrospective analysis of recent mastoidectomy patients, "low" tegmens were more likely to require a canal wall down mastoidectomy whereas "high" tegmens were more likely to require a canal wall up mastoidectomy.

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ID: IP073**Anatomical findings of bony portion of Eustachian tube**Presenting Author: **Ryoukichi Ikeda**Ryoukichi Ikeda¹, Hiromitsu Miyazaki¹, Tetsuaki Kawase², Yukio Katori², Toshimitsu Kobayashi¹¹Sen-En Rifu Hospital, ²Tohoku University
*Otolaryngology-Head and Neck Surgery**Learning Objectives:*

Introduction: The Eustachian tube (ET) consists of an osseous and a cartilaginous part which measure one thirds to two thirds of the overall length, respectively. Savic et al. reported that the shapes of bony portion of ET are divided into three groups (triangular, rectangular and irregular).

Methods: Bony portion of ET was examined by computed tomography (CT) in patulous Eustachian tube, chronic inflammation middle ear diseases and control group. The aeration of mastoid was also examined.

Results: The group with poor aeration of mastoid is significantly higher rate of triangular shape than good aeration group. In addition, the bone between cochlea and carotid artery in poor mastoid aeration group is thicker than good aeration group.

Conclusions: The shapes of the tympanic orifice and bony portion of the ET are various. The shapes of bony portion of ET are related to aeration of the mastoid cell. It is important to evaluate bony portion of ET before transtympanic ET surgery.

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ID: IP074**Subtle open-type congenital cholesteatoma should be distinguished from congenital ossicular anomaly -Endoscope assisted microscopic trans canal approach-**Presenting Author: **Amiko Ishii**

Amiko Ishii, Katsumi Takizawa, Wakako Nakanishi, Kazunari Okada, Chikako Yamada, Hiroko Monobe

*Japanese Red Cross Medical Center**Learning Objectives:*

Introduction: Open-type congenital cholesteatoma (OCC) of the middle ear is relatively rare. It is also difficult to diagnose correctly preoperatively because the clinical presentation is very similar to that of congenital ossicular anomaly (COA). Here, we present a case report of middle ear OCC masquerading as COA.

Case presentation: A 12-year-old Japanese boy with a history of imperforate anus and spinal anomalies presented with a 1.5-year history of left-sided hearing loss. The external auditory canal and tympanic membrane were normal on both sides. Pure tone audiometry showed a 44-dB conductive hearing loss. High-resolution temporal bone computed tomography (TBCT) showed a defect in the long process of the incus and the stapes suprastructure, and a small shadow near the stapedia tendon. An endoscope-assisted microscopic transcanal approach was used to identify the