Learning Objectives: The endoscopically assisted surgery of the middle ear is widely used in the world for over 20 years. The aim of the study was to assess the application of this method in comparision to the standard microscopic tympanoplasty in terms of the tendency to recurrence of cholesteatoma.

The endoscopically assisted surgery of the middle ear is widely used in the world for over 20 years. The aim of the study was to compare the use of this method compared to the standard microscopic tympanoplasty in terms of the tendency to recurrence of cholesteatoma.

The study included 45 patients operated in the years 2009 to 2010 due to cholesteatoma. All patients had made canal wall up tympanoplasty with posterior tympanotomy and removing the cholesteatoma from the middle ear. Reconstruction of the tympanic membrane and ossicular chain were performed as needed. Additionally application of endoscope in study group allowed to visualize and removing of the matrix of cholesteatoma from the reccesses of the tympanic cavity. We compared the results of treatment of patients five years after the first operation.

To the study group were enrolled twenty-five patients and twenty to the control group. During five years after surgery, again we operated on sixteen subjects in the study group (66%) and ten from control group (50%). The reason of second-look procedure was uncontrollable retraction pocket or apparent recurrence in the pocket in six patients from the study group (24%) and in one case from the control group (5%). The further persons had carried out second-look tympanoplasty to check the tympanic cavity and to perform ossiculoplasty.

The presence of cholesteatoma during reoperation were found in nine individuals in the study group (37.5%) – six recurrences from the retraction pockets (24%) and three residual cholesteatoma in the recesses of tympanic cavity (12%). In the control group the cholesteatoma was found in only two cases (10%). The recurrence from the retraction pocket in one patient (5%) and the residual of cholesteatoma in one person (5%).

We conclude that developed otosurgical technique is the basis of the satisfactory results of treatment. Additional tool is not affected a in crucial way for improving results in terms of score of residual cholesteatoma.

ID: IP091

The development of a new 3D printed temporal bone model and it's comparison to other training models

Presenting Author: **Anand Kasbekar**

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Learning Objectives: To develop a 3D printed temporal bone that can be used as a training model and to compare it against the Pettigrew bone model, the Voxel-Man virtual reality model and a cadaveric temporal bone.

Introduction: There is a need for realistic temporal bone (TB) models for dissection by trainees in otolaryngology. Three dimensional (3D) printers provide a method of replicating realistic models. We have developed the first UK 3D TB model (3D model) to our knowledge and compared it to a Pettigrew model (PM), Voxel-Man virtual reality model (VMM) and a cadaveric TB model (CM).

Methods: The production of the 3D model will be discussed using an Object 3D printer. Different colours and materials were used to enhance realism. A senior ENT trainee and post CCT fellow separately dissected and rated the 4 models assessing their realism to a live TB dissection using a 5 point rating system.

Results: The cadaveric model was the closest to a living TB in all category ratings. Amongst the other models, the 3D model rated excellently for "anatomical feel" but due to technical difficulties in the manufacturing process anatomical accuracy was poor. Pros and cons of each of the models are discussed including how the 3D model will be improved to an acceptable standard for ENT trainees to dissect.

Conclusions: With improved manufacturing of the 3D model, trainees will have access to relatively cheap, high quality models to dissect. All models evaluated have varying benefits to the trainee dependant on the stage of their training. The 3D model will be utilised in the region's training programme in the future.

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How to achieve a dry care free mastoidectomy cavity

Presenting Author: **Udi Katzenell**

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Learning Objectives:

Objectives: This study investigates the clinical results of canal wall down mastoidectomy (CWDM).

Methods: The clinical records of patients who had primary or revision canal wall down mastoidectomy between 9/2011 and 12/2015 in Kaplan Medical Center were reviewed. All surgeries were performed in a uniform technique by two experienced surgeons.

Results: 39 patients had CWDM with the average age of 34 years (5–87). 72% (28) were male and 11 (28%) were female. For 51% (20) it was a revision surgery. 46% (18) had a contralateral pathology and 7(18%) had contralateral surgery. 7% (2) had recurrence of the cholesteatoma after surgery. The Nadol cavity grading after surgery was grade 0 (No discharge events and no granulations) in 71% (22) of the patients, grade 1 (one event of discharge which is shorter than two weeks in the past three months or no discharge with a sensation of a wet ear) in 13% (4) and grade 2 (persistant