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*Learning Objectives:*

Overlay tympanoplasty is one of the well-known techniques of middle ear surgery applied for all types of perforated tympanic membrane. However, classic overlay tympanoplasty has several disadvantages of technical difficulty, lateralization, and anterior wall blunting and long healing time. Modified overlay tympanoplasty was developed to overcome these disadvantages and has been performed for more than 15 years at our university. Overall success rate of this technique was 98%. Precise technique and surgical tips of modified overlay tympanoplasty to achieve a promising surgical result as well as early hearing restoration will be introduced.

Another novel surgical technique of ossiculoplasty, named autologous bone-cartilage composite graft (BCCG) ossiculoplasty will be mentioned. Analytic data of ossiculoplasty of BCCG showed satisfactory hearing outcome and the lowest complication rate among different materials of ossiculoplasty including Polycel<sup>®</sup> and titanium. Especially extrusion rate of BCCG ossiculoplasty appeared 0%. Therefore, we propose our BCCG ossiculoplasty be considered as a useful alternative method especially in patients with Eustachian tube dysfunction. Designing procedure and its application to different cases will be demonstrated.

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### Surgery on windows of inner ear (V837)

**ID: 837.1**

#### Cholesteatoma surgery with labyrinthine fistula

Presenting Author: **Tommaso Sorrentino**  
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*Learning Objectives:* To give suggestions on the treatment of labyrinthine fistula in cholesteatoma surgery and the risk of hearing loss.

*Introduction:* Labyrinthine fistula is one of the most common complications of chronic otitis media with cholesteatoma. The aim of this study is to identify factors that may foresee evolution of hearing in case of cholesteatoma surgery with labyrinthine fistula.

*Methods:* We did a retrospective study on patients undergone tympanoplasty for cholesteatoma with labyrinth fistula. For each case were noted localization/s and the features of the fistula, treatment of the cholesteatoma and the fistula, and air and bone conduction thresholds before and after surgery.

*Results:* 75 ears has been evaluated. Only for 26.7% of the patients complained about hearing loss at diagnosis, while

all but 3 patients presented hearing loss at audiometric testing. The fistula interested the lateral semicircular canal in 81.3%, while interest multiple canals in 18.7% of the cases. The fistula was membranous in 22.7 % cases, while bony in 77.3 % of cases. The size of the fistula was inferior to 2 mm in 60% of the patients, and superior to 2 mm in 40%. Only 21.3% patients underwent canal wall up , while 78.7% underwent canal wall down tympanoplasty. In 33.3% of the cases the matrix of the cholesteatoma was left in place on the fistula. In the other cases it was removed and the fistula was covered. In 17.3% of cases we don't have details. The mean preoperative bone conduction thresholds was 30.8 dB. The mean postoperative bone conduction thresholds was 35.3 dB. Hearing loss was more significant at 1 and 2 Khz. The risk of hearing loss was statistically correlated to the presence of multiple, membranous fistulae and if the size of the fistula was superior to 2 mm.

*Conclusions:* In case of labyrinthine fistula the risk of hearing loss is not correlated to the surgical procedure, but mainly on the feature of the fistula. Probably in case of large, multiple fistulae the membranous labyrinth may be damaged not only by surgery but also by inflammatory and infective process.

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### Surgery on windows of inner ear (V837)

**ID: 837.2**

#### Removal of cholesteatoma matrix from inner ear fistula

Presenting Author: **Harukazu Hiraumi**

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*Learning Objectives:*

The inner ear fistula is a frequently encountered complication of a cholesteatoma. During the removal of cholesteatoma matrix covering the inner ear fistula, meticulous care should be taken not to insult the inner ear. To minimize the inner ear damage, we preserve the periosteum around the inner ear fistula during the removal of cholesteatoma matrix. With this technique, the damage to the endosteum is minimized. This is very important, especially in case with cochlear fistula. In this video workshop, we present our technique in the removal of cholesteatoma matrix from inner ear fistula.

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### Surgery on windows of inner ear (V837)

**ID: 837.3**

#### Hearing preservation techniques in semicircular canal surgery

Presenting Author: **Vincent Van Rompaey**