*Discussion*: Using a technique free of proximity bias, the depth of the sinus tympani is variable and unpredictable.

*Conclusion*: From one ear to another ear, the depth of the sinus tympani varies and is not predicatable.

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### Preparatory operations for safe middle ear implantation

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*Learning Objectives*:

*Introduction*: The range of candidates for middle implants, either the Rion middle ear implant (Rion MEI) or the Vibrant Sound Bridge (VSB), has been restricted to patients with conductive or mixed hearing loss in Japan and most of the candidates had received previous middle ear surgeries without favorable functional results. Some of the patients have chronic middle ear pathologies which should be controlled before middle ear implantation.

*Patients and methods*: The Rion MEIs were implanted between 1994 and 2000 in 6 patients. Five of them had had radical mastoidectomy and one had previous canal-wall up surgery. Four patients with a dry mastoid cavity were implanted in one stage with closure of the external ear canal, whereas one patient having an infected mastoid cavity required a two-stage procedure for implantation. The round window vibroplasty technique was employed for VSB between 2012 and 2013 in 6 patients. Among six patients, two patients having a radical mastoidectomy cavity with a retroauricular opening, one patient with failed atresia surgery and one patient following canal wall up tympanoplasty needed preparatory operations before VSB implantation.

*Results*: All middle ear devices implanted in a two-stage procedure tolerated well in patients who had had severe middle ear diseases and/or eustachian tube dysfunction at the time of the preparatory operations.

*Discussion*: More than thirty years' experience with the Rion MEI in Japan had shown that postoperative retraction of the tympanic membrane occurred in a fairly high proportion of the patients with eustachian tube dysfunction, potentially causing mechanical interactions and/or protrusion of the vibrator. In order to avoid such uncomfortable situations, we prefer to prepare for a sufficient middle ear space before implantation with lateralization of the tympanic membrane or canal closure supplemented with a pedicled temporalis muscle flap or with a temporo-parietal fascia flap.

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### Nationwide Survey of middle ear cholesteatoma surgery cases in Japan: Results from the Japan Otological Society Registry using 2015 JOS Staging and Classification System

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*Learning Objectives*: The committee on Nomenclature of the Japan Otological Society (JOS) was appointed in 2004 to create a cholesteatoma staging system widely applicable in Japan and as simple as possible to use in a clinical practice. After the initial proposal of the principal staging system for attic cholesteatoma in 2008, we proposed 2010 staging system for two main types of acquired cholesteatoma, pars flaccida and pars tensa types. Since then, this system has been widely used in Japan, allowing for more meaningful communication between outcome studies based on surgical methods used for a respective type and stage of cholesteatoma. We have recently added two more types, congenital cholesteatoma and cholesteatoma secondary to a pars tensa perforation, as 2015 JOS cholesteatoma staging and classification system. Briefly, the principal JOS staging system defines four stages: stage I, cholesteatoma confined to the primary site; stage II, involving two or more sites; stage III, with intratemporal complications; stage IV, with intracranial complications. This system is applicable to pars flaccida, pars tensa, congenital cholesteatomas and cholesteatoma secondary to a tensa perforation.

A nationwide survey was conducted by the Committee of JOS in order to promote the use of this system and to capture the prevalence of cholesteatoma types and stages in Japan in 2015. The operative methods employed in each case were also included. Medical information of the patients were anonymized and registered through the JOS website voluntarily between 1 January and 29 February 2016.

As of 2016/02/27, 1480 cases from 59 hospitals have been registered, with stage I 25%, stage II 57%, stage III 14% and stage IV 0.5%. 64% of the cases were assigned to pars flaccida type, 13% to pars tensa type, 12% to congenital cholesteatoma and 5% to cholesteatoma secondary to a tensa perforation. The final registry data and the detailed breakdowns of cholesteatoma classification and staging will be presented.