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**Free Papers (F672)****ID: 672.1****Intratympanic therapy for refractory tinnitus: up to date evidence for clinical practice**Deep Sarode<sup>1</sup>, Rachael Kirkbride<sup>1</sup>, Danish A Bari<sup>1</sup>, Rona Russell<sup>1</sup>, Ophir Ilan<sup>2</sup>, M Iqbal Syed<sup>1</sup><sup>1</sup>The Royal Infirmary of Edinburgh, Scotland,<sup>2</sup>University Health Network, Canada

*Background:* Intratympanic therapy for tinnitus, first described in 1940, is now re-emerging as a treatment option, particularly in those who fail conventional treatment and find tinnitus disabling.

*Objective:* To critically evaluate the current evidence on the efficacy of intratympanic therapies on tinnitus using the tinnitus handicap inventory, tinnitus loudness scale, tinnitus awareness score, tinnitus loudness matching, minimum masking level and visual analogue scales.

*Search strategy:* An electronic literature search was performed on AMED, EMBASE, HMIC, MEDLINE, PsycINFO, BNI, CINAHL, HEALTH BUSINESS ELITE, CENTRAL and Cochrane Ear, Nose and Throat disorders group trials register using various MeSH. The search was restricted to English-language and human subjects. The last date of search was February 2016.

*Selection criteria:* Randomised controlled trials [RCT's] of intratympanic therapies [steroids, AM-101, AM-111, gentamicin and latanoprost] versus a placebo or alternate therapy.

*Results:* Our search identified 17 relevant RCT's, of which 15 RCT's [1144 patients] comparing intratympanic steroids, AM-101, AM-111, gentamicin or latanoprost to another form of treatment or placebo were analysed.

*Conclusions:* On the basis of 3 RCT's (n = 357) for intratympanic AM-101 there is limited evidence to support its effectiveness, and based on 8 RCT's (n = 425) for intratympanic steroids we found contradictory evidence of its benefit in changing the audiometric quality and improving the impact on tinnitus on the patient. Results from ongoing multi-centre RCT's on AM-101 and intratympanic steroids will help to hopefully clarify their efficacy but there is a need for further targeted RCT's to determine which subgroups of patients are likely to benefit most from intratympanic therapy of steroids or AM-101. There is no evidence to support the use of other forms of intratympanic therapies including AM-111, gentamicin and latanoprost for refractory tinnitus.

**Free Papers (F672)****ID: 672.2****Assessment of labyrinthine function in patients with chronic middle ear disease using the VHIT and VEMP test**Presenting Author: **Jaswinder Sandhu**Jaswinder Sandhu<sup>1</sup>, Jaydip Ray<sup>1</sup>, Matthew Yung<sup>2</sup><sup>1</sup>Sheffield Teaching Hospitals, <sup>2</sup>The Ipswich Hospital*Learning Objectives:*

1. A proportion of patients with chronic middle ear pathology develop a vestibular deficit.
2. Standard vestibular testing is often not appropriate for this cohort as middle ear dysfunction precludes assessment.
3. VHIT and BC-VEMPs bypass the middle ear and such can be used to determine underlying function relating to all five aspects of the vestibular system.

*Introduction:* It is well established that middle ear diseases such as cholesteatoma and otosclerosis can impair hearing as a result of damage to the ossicular chain or the cochlear itself. Given the underlying pathophysiology it is entirely plausible that the disease processes can also impair labyrinthine function. To date it has been difficult to assess the impact on the vestibular system as the traditional test battery cannot be used, however the recent advent of new tests which bypass the middle ear have made this a new exciting possibility.

*Methods:* A total of 28 patients awaiting middle ear surgery were recruited from two tertiary otology centres. All patients underwent Video Head Impulse Testing (VHIT) of all three semicircular canals on the affected and non-affected sides. Bone Conduction Vestibular Evoked Myogenic Potentials (BC-VEMPs) were also conducted to assess bilateral otolith function.

*Results:* The vestibular testing results of the 28 patients will be presented. The results of the diseased side and the contralateral side are separated considered and a correlation will be made with the cochlear function.

*Conclusions:* In this study we have shown how VHIT and VEMP testing can be successfully be used to assess the labyrinthine function of patients with middle ear disease. The tests are non-invasive and are quick to perform opening the possibility of being done routinely in this cohort. Furthermore these patients can be assessed post-operatively and the results compared to baseline to check for any iatrogenic or disease specific vestibular dysfunction.