

doi:10.1017/S0022215116002437

doi:10.1017/S0022215116005983

**Free Papers (F672)****ID: 672.3****Analysis of gait and posture control in peripheral vestibular disorder utilizing 3D motion capture system**Presenting Author: **Toru Miwa**Toru Miwa, Ryosei Minoda  
*Kumamoto University**Learning Objectives:*

*Introduction:* Electronic walkway and video-based gait analysis provide comparable temporospatial gait information in healthy and peripheral vestibular disorder (PVD) subjects. In this study, we investigated the motion of body parts to establish the quantitative evaluation methods for the gait and posture in PVD patients.

*Design:* Data were acquired simultaneously by a walkway and an eight-camera motion capture system (Locus 3DMA-8000, Anima Co.) in 8 healthy subjects (Control) (age  $24 \pm 2.5$  yrs) and 4 people with unilateral Canal Paresis (CP) in Caloric test ( $20^{\circ}\text{C}$ , 5 ml, 20sec) (Superior vestibular dysfunction: SVN group) (age  $70 \pm 5.9$  yrs), 6 people with unilateral loss of response in vestibular-evoked myogenic potential (VEMP) (Inferior vestibular dysfunction: IVN group) (age  $37 \pm 1.3$  yrs) and 5 people with unilateral CP and loss of response in VEMP (SVN & IVN group) (age  $61 \pm 8.1$  yrs). Each group demonstrated free walk and upright stance posture for 30 secs in their eyes' open or closed, with reflective markers attached to their skin. Movement of each marker, gait velocity, stride time, stride length, step length, percent single support, and percent total support were compared among four groups.

*Results:* Movement of markers which subjects closed their eye in upright stance posture and free walk was significantly larger than that in open their eyes in "Control, SVN group and SVN & IVN group" and "Control and IVN group", respectively. SVN group walked unsteadily the most among all groups in their eyes' open and closed. Gait speed and stride length were significantly decreased in PVD groups.

*Conclusions:* We have demonstrated the analysis of gait and posture control in in PVD utilizing 3D motion capture system. Quantitative assessment in motion in PVD is necessary for the development of vestibular rehabilitation. We considered that 3D motion capture has the potential to become new methods of the evaluation for gait and postural control in vestibular disorder.

**ID: IP102****Current trends of cholesteatoma surgery in Japan: Results from the Japan Otological Society Registry using 2015 JOS Staging and Classification System**Presenting Author: **Manabu Komori**Manabu Komori<sup>1</sup>, Tetsuya Tono<sup>2</sup>, Masafumi Sakagami<sup>3</sup>, Hiromi Kojima<sup>4</sup>, Naohito Hato<sup>5</sup>, Yutaka Yamamoto<sup>4</sup>, Keiji Matsuda<sup>2</sup>, Yuka Morita<sup>6</sup>, Sho Hashimoto<sup>7</sup><sup>1</sup>National Center for Child Health and Development, <sup>2</sup>Miyazaki University, <sup>3</sup>Hyogo College Of Medicine, <sup>4</sup>Jikei University School of Medicine, <sup>5</sup>Ehime University, <sup>6</sup>Niigata University, <sup>7</sup>National Sendai Medical Center*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 a 2010 version of the staging system for two main types of acquired cholesteatoma; pars flaccida type and pars tensa type. Since then, this staging 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.

A nationwide survey was conducted by the Committee of JOS in order to promote the use of this system among JOS members and to capture the prevalence of cholesteatoma types and stages in Japan in 2015. The operative methods employed in each case were also included to reveal the current trends of cholesteatoma surgery in Japan. 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. 99.8% underwent general anesthesia as to local anesthesia 0.2%. Transcanal, retroauricular, and endaural approach was carried out in 8.0%, 88.5%, and 3.5% of the cases respectively. In terms of equipment, microscope alone was used in 74.0%, as to endoscope alone 6.7%. Combination of both microscope and endoscope was used in 19.3%. As to surgical procedure, canal wall down tympanoplasty without canal wall reconstruction, canal wall down tympanoplasty with canal wall reconstruction, canal wall up tympanoplasty, and tympanoplasty without mastoidectomy was pursued in 16.6%, 33.2%, 28.6% and 21.6% respectively. Based on the final registration data, we will propose and analyze the surgical procedure of each stage of cholesteatoma.