International Symposium 1 KORL-HNS joint symposium Cutting edge of the vestibular sciences from Korea and Japan

When to consider surgical options in a dizziness clinic?

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Dizziness and balance disorders due to peripheral vestibulopathy gradually improve with appropriate central compensation. However, in cases such as Meniere's disease, where appropriate compensation is not maintained due to repeated worsening and improvement of symptoms, or dizziness due to perilymphatic fistula, labyrinth fistula by cholesteatoma, benign paroxysmal positional vertigo that do not improve with otolith repositioning therapy, symptoms may not be alleviated with medical treatment alone and surgical treatment can be considered. Things to keep in mind when considering surgical treatment in patients with dizziness are as follows : First, an accurate diagnosis of the patient must be made through a detailed evaluation, and second, it must be confirmed whether the patient's symptoms have improved with conservative treatment before surgery. Third, it is necessary to determine whether the patient's general health is good enough to undergo surgery. Lastly, after a detailed explanation is given to the patient about the expected results and possible side effects after surgery, it is necessary to ensure that the patient actively consents and agrees to the results of the surgery. The most ideal surgical outcome is to improve dizziness while preserving hearing without destroying the structures of the inner ear. Meanwhile, it can be broadly divided into two types depending on whether vestibular function is preserved after surgery. The first is a non-destructive surgical method that corrects the fundamental cause of vertigo, and the second is a method that destroys the vestibular function on one side that causes variable and recurrent vestibulopathy and then induces appropriate central compensation. When choosing a procedure, the patient's hearing condition, age, and condition of the contralateral ear must be comprehensively considered. In this section, surgical options and indications will be discussed, in which surgery is a fundamental treatment option for diseases that cause dizziness.

Short Bio

1985-1991, College of Medicine, Seoul National University
1995-1999, Residency, Seoul National University Hospital
2001-2003, Research Associate, University of Pittsburgh
2009-2011, Adjunct Professor, Oregon Health & Science University
2003-present, Assistant Professor, Associate Professor, Professor, Seoul National University & Seoul National University Bundang Hospital
2021-2022, President, Korean Otological Society
2025-2025, President, Korean Balance Society
2026-present, Chairman, Board of Directors, Korean Society of ORL-HNS

Immediate effects of Epley maneuver via BPPV fatigue

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Objectives :

The Epley maneuver (EM) is a widely used and highly effective canalith-repositioning technique for treating posterior-canal-type benign paroxysmal positional vertigo (BPPV). One of its characteristic features is the immediate effect, in which positional nystagmus often disappears or markedly decreases soon after the maneuver is completed. Our previous study demonstrated that introducing interval time during the EM reduced this immediate effect, suggesting that the timing and continuity of head movements may influence therapeutic outcomes. However, it remained unclear which specific head position within the EM sequence is most sensitive to the introduction of interval time. The purpose of the present study was to identify the head position at which interval time most strongly reduces the immediate effect of the EM, thereby providing insight into the mechanism underlying this rapid improvement.

Methods :

Fifty-one patients diagnosed with the posterior canal type of BPPV were enrolled and randomly assigned to one of three groups. Each group underwent the EM, but a 10-minute interval was inserted at a different head position : group A at the first head position, group B at the third head position, and group C at the fourth head position. The primary outcome measure (POM) was defined as the ratio of the maximum slow-phase eye velocity (MSPEV) of positional nystagmus immediately after the EM compared with the MSPEV measured before the maneuver. A smaller ratio indicates a stronger immediate effect, whereas a larger ratio reflects a poorer response. This design allowed us to evaluate how the timing of the interval influences the immediate reduction of nystagmus.

Results :

The POM differed markedly among the three groups. Group A demonstrated the smallest ratio (0.07), indicating the strongest immediate effect, whereas group B (0.36) and group C (0.49) showed significantly larger ratios. Statistical analysis confirmed that the differences among the groups were highly significant ($p<0.001$). These findings suggest that inserting interval time at later head positions—specifically the third and fourth positions—substantially reduces the immediate effect of the EM.

Discussion :

The results indicate that interval times introduced at the third and fourth head positions diminish the immediate effect of the EM, whereas an interval at the first head position does not. Our previous study suggested that the effect of BPPV fatigue—a phenomenon in which repeated Dix-Hallpike testing leads to reduced positional nystagmus—is maintained when the first head position of the EM is held. BPPV fatigue reflects the fatigability of positional nystagmus and is thought to be a transient physiological response. The present findings align with the theory that the immediate effect of the EM may largely represent BPPV fatigue itself. Because group A maintained the first head position for the longest duration, the effect of BPPV fatigue may have been strongest in this group, resulting in the most pronounced immediate reduction of nystagmus. These observations provide further support for the hypothesis that BPPV fatigue plays a central role in the rapid improvement seen after the EM and highlight the importance of continuous head-position transitions during the maneuver.

Short Bio

1995-1996, Residency, Osaka University Graduate School of Medicine
1998-2000, Research Associate, Mount Sinai Hospital
2001-2007, Instructor, Kansai Rosai Hospital
2009-2014, Assistant Professor, Osaka University Graduate School of Medicine
2014-2019, Lecturer, Osaka University Graduate School of Medicine
2019-2022, Associate professor, Osaka University Graduate School of Medicine, Osaka, Japan
2022-present, Director of the center, Bellland General Hospital, Osaka, Japan

Management of dizzy patients using large language model.

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The diagnosis of dizziness is largely based on clinical symptoms, while vestibular function tests provide objective information regarding vestibular status. After diagnosis, clinicians attempt various treatment strategies depending on the patient's condition, among which vestibular rehabilitation therapy (VRT) is the most important. The efficacy of VRT has been well established from an evidence-based medicine perspective through numerous clinical studies. However, most patients with dizziness initially present to primary care clinics or emergency departments, where otology-trained specialists are often unavailable. In these settings, physicians frequently rely on neuroimaging rather than detailed symptom analysis, structured history taking, or eye movement examination, which may lead to incomplete diagnoses in cases without central pathology. Consequently, treatment often focuses on short-term symptom relief using vestibular suppressants rather than individualized vestibular rehabilitation tailored to the patient's condition. Large language models (LLMs) are natural language-based systems trained to generate statistically optimal subsequent tokens and have recently incorporated advanced reasoning capabilities. Major IT companies, including Google, have developed medically fine-tuned LLMs that demonstrate performance comparable to that of general physicians in standardized medical assessments. Considering the diagnostic and therapeutic workflow of dizziness, LLMs have the potential to analyze patient-reported symptoms, perform clinical reasoning, and generate personalized vestibular rehabilitation strategies. In this talk, we share the clinical experience of Hallym University Sacred Heart Hospital, demonstrating how a fine-tuned LLM improved the diagnostic and therapeutic workflow for patients with dizziness.

Short Bio

1996-2002	College of Medicine, Hallym University, South Korea
2003-2006	Residency Program, Department of Otolaryngology, Hallym University Sacred Heart Hospital, South Korea
2007-2009	Fellowship, Department of Otolaryngology, Seoul National University Bundang Hospital, South Korea
2011-2017	Assistant Professor, Department of Otolaryngology, Hallym University Sacred Heart Hospital, Anyang, South Korea
2017-2022	Associate Professor, Department of Otolaryngology, Hallym University Sacred Heart Hospital, Anyang, South Korea
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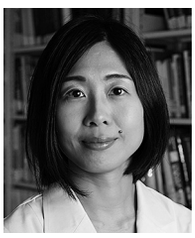
Pathophysiology of persistent postural- perceptual dizziness (PPPD)



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Persistent postural-perceptual dizziness (PPPD) is a functional neuro-otologic disorder characterized by chronic vestibular symptoms lasting over 3 months. The core symptoms are dizziness, unsteadiness, and non-spinning vertigo that are exacerbated by three factors : upright posture or walking, active or passive motion, and exposure to moving or complex visual stimuli.

PPPD is usually preceded by conditions that disrupt balance or cause acute or episodic vertigo, unsteadiness, or dizziness, most commonly vestibular disorders. Posture is maintained by three sensory inputs : visual, vestibular, and somatosensory information. Preceding vestibular disorders disrupt balance and posture, leading to two reactions : first, heightened vigilance as expressed by postural stiffness during standing and walking, which is also observed in healthy individuals when standing on elevated or unstable surfaces, and second, increased reliance on visual and/or somatosensory information. Generally, these two conditions return to normal with the recovery of the preceding disease. However, the psychological trend of patients with PPPD involving neuroticism or introversion could influence the persistence of these conditions. Sustained heightened vigilance and increased reliance on visual and/or somatosensory information cause persistent dizziness and exacerbation by visual stimuli and motions. Ultimately, these processes may alter the spatial orientation and impair postural control in complex environments.

Recent neuroimaging studies on PPPD have gradually revealed neural mechanisms underlying the abovementioned pathophysiological models. The local activity and functional connectivity in multimodal vestibular cortical areas are decreased in patients with PPPD, whereas connectivity between the prefrontal cortex, which regulates attentional and emotional responses, and primary visual and motor regions appears to be increased. These results complement physiological and psychological data identifying hypervigilant postural control and visual and/or somatosensory dependence in patients with PPPD.

This presentation reviews clinical and psychological findings supporting the pathophysiological hypothesis of PPPD and highlights neuroimaging studies that may substantiate these models.

Short Bio

2003-2009, Medical School, Niigata University
2009-2011, Junior Resident, Niigata University Medical and Dental Hospital
2011-2015, Senior Resident, Department of Otolaryngology Head and Neck Surgery, Niigata University School of Medicine
2019-2023, Graduate School, Niigata University
2024-present, Assistant Professor, Department of Otolaryngology Head and Neck Surgery, Niigata University School of Medicine

International Symposium2　Cochlear Implant：Current topics in each faculty

Cochlear Implant：“Current topics” in der MHH―Individualized cochlear implant selection

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Medizinische Hochschule Hannover　Klinik für Hals-Nasen-Ohrenheilkunde, Germany[1)],
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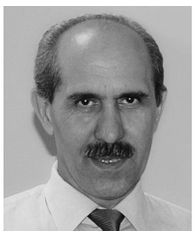
Cochlear implant candidates present with considerable variability not only in general clinical profiles — including age, sex, and medical history — but also in cochlear morphology and function, such as cochlear size and shape, residual hearing, and etiology of hearing loss. To optimize postoperative auditory outcomes, appropriate selection of both electrode and surgical strategy, matched to the individual cochlear condition of each patient, is essential.

Here we present our current approach to “individualized implant selection” — an overview for preoperative evaluation and characterization of cochlear conditions. We describe the methods to measure and estimate relevant cochlear parameters, with the aim of guiding both electrode and surgical strategy selection in a patient-tailored manner.

略歴

2012年９月　東北大学大学院医学系研究科医科学専攻博士課程　修了
2013年４月　Institut für AudioNeurotechnology & Abteilung für Experimentelle Otologie der Hals-Nasen-Ohrenklinik, Medizinische Hochschule Hannover（MHH）　博士研究員
2019年～　Hals-Nasen-Ohrenklinik der MHH　耳鼻咽喉科医師、博士研究員兼任
2023年～　Fachärztin für Hals-Nasen-Ohren-Heilkunde（ドイツ耳鼻咽喉科専門医）

Cochlear Implant : Current topics in each faculty



Özgür Yiğit
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Background :

Cochlear implantation has evolved significantly over the past two decades. It has moved beyond being the sole treatment strategy for patients with severe bilateral hearing loss. Advances in surgical techniques, electrode design, intraoperative monitoring, and artificial intelligence−assisted programming have transformed the field into a dynamic and patient−specific rehabilitation strategy.

Objective :

To present current trends in cochlear implantation based on contemporary literature and the recent experience of our tertiary referral center.

Methods :

A narrative review combined with institutional clinical observations over the past twenty years, focusing on patient selection, surgical techniques, electrode preferences, hearing preservation strategies, prevention and management of complications and post−operative programming developments.

Results :

There has been a notable increase in cochlear implantation for single−sided deafness, asymmetric hearing loss, and elderly patients. Hearing preservation techniques using round window approaches and soft surgery protocols have become standard practice. Electrode arrays are selected according to cochlear anatomy and residual hearing status. Intraoperative neural telemetry, electrically−evoked compound action potentials have improved surgical precision. In parallel, structured perioperative protocols have contributed to the prevention and management of cochlear implant−related complications. Tele−audiology and artificial intelligence−supported fitting systems are increasingly integrated into post−operative management.

Conclusion :

Cochlear implantation is transitioning from a purely surgical intervention to a comprehensive, technology−integrated auditory rehabilitation platform. Future directions include robotic−assisted surgery, fully implantable systems, and AI−driven individualized mapping strategies.

Short Bio

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Cochlear Implant : Current topics in each faculty

Kenichi Takano
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Cochlear implantation (CI) has evolved from a purely surgical intervention into a comprehensive, life–long rehabilitative process that requires close collaboration among multiple professionals. In recent years, advances in device technology, expanding indications, and demographic changes have further increased the complexity of CI care. This presentation highlights current key topics in cochlear implant practice, focusing on telemedicine, multidisciplinary collaboration, and referral networks in Japan.

Telemedicine has emerged as an essential tool for improving access to CI services, particularly for patients living in rural or remote areas. Remote programming, tele–audiology, and virtual follow–up consultations enable continuous auditory management while reducing the burden of travel for patients and their families. These approaches became especially important during the COVID–19 pandemic and continue to demonstrate their value in routine clinical practice. However, the successful implementation of telemedicine requires appropriate infrastructure, standardized protocols, and close coordination between implant centers and local facilities.

Multidisciplinary collaboration is another cornerstone of modern CI care. Optimal outcomes depend not only on surgeons, but also on audiologists, speech–language therapists, educators, nurses, and rehabilitation specialists. From candidacy evaluation and perioperative management to long–term auditory and language development, effective communication among team members is critical. This symposium will discuss practical strategies to enhance team–based care, including shared decision–making, information sharing, and role clarification among professionals.

In Japan, the development of robust referral networks is essential to ensure equitable access to cochlear implantation. Differences in regional resources, patient awareness, and institutional experience can lead to delays in diagnosis and referral. Strengthening referral pathways between community hospitals, hearing clinics, educational institutions, and tertiary CI centers can facilitate timely intervention and continuity of care. Although circumstances vary by region, I would like to introduce the initiatives and approaches in the region where the presenter practices.

In conclusion, cochlear implant care is entering a new era characterized by technological innovation and collaborative practice. By integrating telemedicine, reinforcing multidisciplinary teamwork, and optimizing referral networks, we can further improve outcomes and quality of life for CI users in Japan and beyond.

Short Bio

2001 M.D., Sapporo Medical University School of Medicine
2001–2003 Resident, Sapporo Medical University Hospital
2003–2008 Physician, Sapporo Medical University
2008–2012 Assistant Professor
2011–2012 Visiting fellow, Yale University
2013–2016 Junior Associate Professor, Sapporo Medical University
2016–2018 Associate Professor
2018–present Professor and Chairman

International Symposium 3 AAO-HNS joint symposium Hypoglossal Nerve Stimulation Therapy : Current Status and Future Perspectives

Future Directions for Neuromodulation in Obstructive Sleep Apnea

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Hypoglossal nerve stimulation (HNS) is an increasingly popular CPAP-alternative treatment for select patients with obstructive sleep apnea (OSA). It displaces the tongue, dilating the pharyngeal airway at multiple levels by elastically pulling other airway structures anteriorly via palatoglossal coupling. Nevertheless, only a portion of treated patients respond sufficiently to HNS, indicating that additional respiratory neurostimulation strategies are needed.

Pharyngeal patency is intimately linked to changes in pulmonary volume. Lung volume increases induce caudal pharyngeal traction via tracheal attachments, decreasing pharyngeal collapsibility. Putative mechanisms include unfolding and longitudinal stretching of the pharyngeal walls, decompressing peripharyngeal tissues, and displacing the hyoid bone anteriorly and inferiorly. The infrahyoid strap muscles can also pull the pharynx caudally. Available data document that ansa cervicalis stimulation (ACS) of the infrahyoid muscles increases airflow and retropalatal cross-sectional area and decreases pharyngeal collapsibility during flow-limited breathing.

The stylopharyngeus muscle originates from the styloid process of the temporal bone and inserts medially into the oropharyngeal lateral wall between the superior and middle constrictor muscles. It is innervated by the glossopharyngeal nerve, which also contributes to the pharyngeal plexus motor branches innervating the constrictor muscles. Glossopharyngeal nerve stimulation (GNS) is hypothesized to generate coactivation of the stylopharyngeus muscle and pharyngeal constrictor muscles to stiffen the oropharyngeal wall and pulls it laterally to stabilize it during inspiration.

Here we review the pathophysiologic mechanisms of pharyngeal collapse and available data regarding the mechanical effects of HNS, ACS, and GNS on pharyngeal patency.

Short Bio

Dr. David Kent is an Associate Professor and Director of Sleep Surgery in the Department of Otolaryngology-Head and Neck Surgery at Vanderbilt University Medical Center. His research explores the neurophysiology of the upper airway, with a particular focus on mechanisms for control of breathing in obstructive sleep apnea (OSA) and their application towards novel OSA treatments.

129—396 2026

Hypoglossal Nerve Stimulation Therapy : Current Status and Future Perspectives

Maria V. Suurna
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Hypoglossal nerve stimulation (HGNS) has emerged as an effective alternative therapy for select patients with moderate-to-severe obstructive sleep apnea (OSA) who are intolerant of or noncompliant with continuous positive airway pressure (CPAP). Electrical stimulation of the hypoglossal nerve during sleep promotes tongue protrusion and stabilizes the upper airway, addressing the neuromuscular component of airway collapse. Pivotal clinical trials and real-world registry data have demonstrated sustained reductions in apnea-hypopnea index (AHI), improvements in daytime sleepiness, and favorable long-term safety and therapy adherence.

Current clinical practice emphasizes strict patient selection criteria, incorporating OSA severity, body mass index, and upper airway anatomy, often assessed using drug-induced sleep endoscopy. Ongoing studies continue to refine indications and optimize surgical techniques to maximize treatment response. Growing evidence supports the durability of HGNS outcomes and underscores its role within a personalized, multimodal approach to OSA management.

The current literature highlights variability in surgical technique, the importance of precise hypoglossal nerve targeting, and the need for standardized outcome reporting. Analyses from international HGNS registries have examined the relationship between comorbid sleep symptoms, including insomnia, and post-implant outcomes, demonstrating that such features do not preclude clinical benefit.

Future directions for HGNS include expanded use of phenotype-based patient selection, technological advancements such as bilateral stimulation systems, and adaptive stimulation algorithms tailored to individual airway dynamics. Further prospective studies and long-term registry analyses will be essential to identify optimal candidates, reduce nonresponder rates, and clarify the role of HGNS within comprehensive OSA care. Continued multidisciplinary collaboration will be critical to advancing hypoglossal nerve stimulation therapy and expanding its clinical impact.

Short Bio

2000-2004, Medical School, Indiana University School of Medicine, Indianapolis, IN, USA
2004-2005, Internship in General Surgery, University of Cincinnati, Cincinnati, OH USA
2005-2009, Residency in Otolaryngology-Head and Neck Surgery, University of Cincinnati, Cincinnati, OH, USA
2009-2013, Assistant Professor of Otolaryngology-Head and Neck Surgery, NYU Langone Medical Center, New York, NY, USA
2013-2020, Associate Professor of Otolaryngology-Head and Neck Surgery, Director of Sleep Surgery, Weill Cornell Medicine, New York, NY, USA
2022-present, Professor of Clinical Otolaryngology-Head and Neck Surgery, Director of Sleep Surgery University of Miami Health Systems, Miami, FL, USA

Current Status and Early Clinical Outcomes of Hypoglossal Nerve Stimulation in Japan

Ayako Inoshita
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Hypoglossal nerve stimulation (HNS) has emerged as an alternative treatment for patients with moderate to severe obstructive sleep apnea (OSA) who are intolerant of continuous positive airway pressure (CPAP) therapy. While its clinical efficacy has been well documented in Western countries, data from Asian populations, including Japan, remain limited.

In Japan, HNS was first introduced in 2022. Since then, more than 150 patients have undergone HNS implantation nationwide, and the number of cases continues to increase. Institutions with sleep-oriented otolaryngologists were more likely to adopt HNS at an early stage. In other settings, interdisciplinary collaboration among sleep physicians and head and neck surgeons has gradually evolved, leading to increased recognition and adoption of HNS in Japan.

This presentation aims to share the current status of HNS therapy in Japan and clinical outcomes from our institutional experience at Juntendo University Hospital. Baseline patient characteristics, prior upper airway surgery, polysomnographic parameters, and postoperative treatment outcomes were retrospectively evaluated. In addition, operative time for HNS implantation was analyzed. Treatment efficacy was assessed using changes in the apnea-hypopnea index (AHI), oxygen desaturation index, and patient-reported symptoms. Analysis of operative time suggested a tendency toward shorter operative duration as experience accumulated. Our early clinical experience demonstrated that HNS implantation was safely performed and resulted in significant improvements in both objective sleep parameters and subjective symptoms, consistent with previously reported Western data. These findings suggest that HNS is an effective treatment option for CPAP-intolerant OSA patients in the Japanese population.

Further accumulation of clinical experience through multicenter studies will be essential to define the long-term role of HNS therapy in the management of OSA in Japan. These findings support the evolving role of neuromodulation-based sleep surgery and highlight the importance of functional surgical approaches led by otolaryngologists-head and neck surgeons in the treatment of OSA.

Short Bio

2002, Graduated from Saitama Medical University
2002-2004, Residency, Toranomon Hospital
2004-2008, Graduate Student, Juntendo University Graduate School of Medicine
2008-, Assistant Professor, Juntendo University Urayasu Hospital
2010-, Postdoctoral Fellow, Lerner Research Institute, Cleveland Clinic
2013-, Assistant Professor, Juntendo University Graduate School of Medicine
2017-, Associate Professor, Juntendo University Graduate School of Medicine

The History of Sleep Surgery in Japan

SHINTARO CHIBA
Ota memorial sleep center/Dept. of ENT, Jikei university school of medicine

Currently, the best treatment strategy for OSA is considered to be the Stanford University two-phase surgical protocol. In this surgical protocol, soft tissue surgery is performed as Phase 1, and maxillofacial surgery such as MMA is performed as Phase 2. In the 1950s, Ikematsu started soft palate surgery for snoring after treating a young woman who was divorced due to noisy snoring, and in 1961, he reported the classification of pharyngeal morphology by visual examination, and Palatoplasty and partial uvlectomy.

Later, in 1981, the same year as the CPAP report, Fujjita reported Uvlopalatopharyngoplasty (UPPP), an application of Ikematsu's snoring surgery for OSA.

He also performed UPPP for obstruction at the level of the soft palate, not only on the soft palate but also on the excessive tissue of the lateral pharyngeal wall. However, UPPP was associated with inadequate efficacy and the surgical complication. Various surgical modifications have since been reported for obstruction at the level of the soft palate, including Cahari's Lateral Pharyngoplasty and Li's Relocation Pharyngoplasty, both of which are performed on the lateral wall of the pharynx to further enhance therapeutic efficacy. On the other hand, minimally invasive procedures such as Uvlopalatal flap and Pillar implant have been reported to reduce side effects. Today, barbed pharyngoplasty, which is expected to provide efficient lateral expansion of the pharyngeal cavity and minimally invasive surgery at the same time, is widely used. Fujita reported a midline glossectomy for posterior tongue obstruction in 1981. Currently, TORS is being performed, but the surgical concept is similar to that of Fujita's procedure, and the concept of surgery for soft palate level and posterior tongue obstruction was already reported by Fujita in 1981.

The anatomy of OSA can be divided into two main categories : soft tissue factors such as tonsil hypertorophy and soft palate morphology, and skeletal factors such as small mandible, with MMA and other procedures selected as Phase 2. However, the ultra-long-term results of both Phase 1 and 2 have been reported to be re-exacerbated. Recently, OSA is considered a multifactorial disease that includes not only anatomical factors but also functional factors such as Loop gain, responsiveness of dilater muscles, and arousal threshold. HNS was recently covered by insurance in Japan, for patients with CPAP intolerant. HNS is a method that focuses on the responsiveness of dilator muscles, and its development began in Japan in the 1980s, with a group at Tohoku University reporting animal experiments and clinical studies in humans. Subsequently, it was commercialized in the U.S. and approved by the FDA in 2014, with long-term results reported. The mechanism of HNS is to prevent airway narrowing by moving the tongue forward through electrical stimulation of the hypoglossal nerve synchronized with inspiration. In this lecture, I will talk about the history and future prospects of Sleep Surgery.

Short Bio

2018-present : Invited Professor Dept. of ENT, Jikei University School of Medicine
2013-present : Director Ota Memorial Sleep Center
2010-2012 : Visiting scholar, Sleep & Circadian Neurobiology Laboratory, Center for Narcolepsy, Stanford Sleep Research Center, Stanford University School of Medicine
2007-2018 : Associate Professor, Dept. of ENT, Jikei University School of Medicine
2001-2004 : Director, Sleep Disorder Center, Ota General Hospital
1999-2009 : Director, Dept. of ENT, Ota General Hospital
1991-1998 : Clinical Fellow, Dept. of ENT, Jikei University School of Medicine
1989-1990 : Resident, Dept. of ENT, Jikei University School of Medicine

International Symposium 4 CEORL Joint Symposium Multidisciplinary treatment and outcomes for sinonasal malignant tumors, particularly olfactory neuroblastoma, at each facility or in each country

Multidisciplinary Management of Sinonasal Malignancy with Skull Base Involvement

Pavol Surda
Consultant ENT and Rhinology Surgeon with a specific interest in Sinonasal Oncology Adult ENT Clinical Lead
Guy's and St Thomas' Hospital

Sinonasal malignancies with skull base involvement represent some of the most complex conditions in head and neck oncology. Recent advances in endoscopic techniques, multidisciplinary decision-making, and reconstruction strategies have significantly altered management paradigms, allowing improved oncological and functional outcomes with reduced morbidity. This presentation reviews contemporary multidisciplinary management of sinonasal malignant tumours, focusing on patient selection, surgical planning, and operative strategy. Particular emphasis is placed on endoscopic and combined endoscopic-open approaches, anterior skull base resection, orbital preservation, and close collaboration between rhinology, neurosurgery, oncology, and reconstructive teams. With careful pre-operative assessment, appropriate use of intra-operative navigation, and tailored reconstruction, modern minimally invasive and hybrid techniques enable oncologically sound resections while minimising complications and shortening recovery times. The evolving role of advanced endoscopic and emerging robotic techniques in skull base surgery is also discussed, highlighting future directions in the multidisciplinary treatment of sinonasal malignancy.

Short Bio

Pavol Surda is a Consultant ENT and Rhinology Surgeon and Clinical Lead of ENT at Guy's and St Thomas' NHS Foundation Trust, London. He specialises in advanced rhinology, sinonasal oncology, and anterior skull base surgery, including complex endoscopic and combined open approaches. He completed fellowships in rhinology and facial plastics in London and anterior skull base surgery at the Academic Medical Centre, Amsterdam, and holds a PhD in rhinology from the University of Amsterdam. His research includes rhinitis in athletes, olfactory dysfunction, and minimally invasive skull base techniques, with over 100 peer-reviewed publications. He serves on the executive board of the European Rhinologic Society, is Strategic Chair of the young European ENT Confederation, and Honorary Secretary of the Laryngology & Rhinology Section of the Royal Society of Medicine. He is actively involved in international teaching, research, and innovation in skull base and robotic surgery.

Multidisciplinary Management and Outcomes in Olfactory Neuroblastoma

Cem Meco
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Olfactory neuroblastoma (ONB) is a rare malignant neoplasm arising from the olfactory neuroepithelium and represents one of the most complex entities in sinonasal oncology. Its clinical course is remarkably heterogeneous, ranging from indolent low-grade tumors with favorable long-term outcomes to highly aggressive high-grade disease characterized by early recurrence, regional and distant metastasis, and disease-specific mortality. This biological diversity, combined with low incidence and frequent skull base involvement, poses significant diagnostic and therapeutic challenges and underscores the necessity for individualized, multidisciplinary management.

Accurate initial evaluation is fundamental and relies on high-resolution imaging to delineate local tumor extent, skull base and orbital involvement, and the presence of regional or distant metastases. Histopathologic confirmation is pivotal, with the Hyams grading system remaining the most powerful prognostic determinant. While both Kadish and TNM-based staging systems are widely used to guide treatment and facilitate outcome comparison, histologic grade often supersedes anatomic stage in predicting behavior and informing therapeutic intensity.

Surgical resection remains the cornerstone of treatment for resectable ONB, with the primary goal of achieving complete tumor removal and negative margins. Advances in endoscopic endonasal skull base surgery have enabled minimally invasive approaches in appropriately selected patients, offering oncologic outcomes comparable to traditional open or craniofacial resections while reducing morbidity. Nevertheless, open or combined approaches remain essential for tumors with extensive intracranial, orbital, or lateral extension beyond the limits of endoscopic access.

Adjuvant radiotherapy is commonly recommended, particularly for intermediate- and high-stage disease, high Hyams grade, positive or close margins, dural invasion, and advanced local extension. Modern radiation techniques, including intensity-modulated radiotherapy and proton beam therapy, allow excellent target conformity while minimizing toxicity to adjacent critical structures. The role of systemic chemotherapy is less clearly defined but is increasingly incorporated in high-grade tumors, advanced or unresectable disease, nodal involvement, or as part of induction or concurrent chemoradiation strategies.

High-grade ONB (Hyams III-IV) presents unique diagnostic and therapeutic difficulties. These tumors often exhibit histopathologic overlap with other poorly differentiated sinonasal malignancies, including sinonasal undifferentiated carcinoma and high-grade neuroendocrine carcinoma, increasing the risk of misclassification and inappropriate treatment. Limited or superficial biopsies may underestimate tumor grade, emphasizing the importance of deep, multi-site sampling combined with comprehensive immunohistochemical and molecular analysis.

Management of the clinically negative neck remains controversial, as delayed cervical metastases are not uncommon, particularly in high-grade and advanced-stage disease. Risk-adapted strategies, including elective neck irradiation, selective neck dissection, or close surveillance, should be individualized based on tumor grade, extent, and institutional experience. Long-term surveillance is mandatory due to the potential for late local, regional, and distant recurrence.

Ultimately, olfactory neuroblastoma exemplifies the critical importance of multidisciplinary collaboration. Optimal outcomes depend on precise diagnosis, accurate grading, thoughtful surgical planning, appropriate use of radiotherapy and systemic therapy, and coordinated long-term follow-up. Ongoing collaborative research and standardized reporting across institutions and countries are essential to refine risk stratification, harmonize treatment strategies, and improve outcomes in this rare but formidable malignancy.

Short Bio

1987-1993, Medical School, Ankara University, Türkiye
1995-2000, Residency, Salzburg Paracelsus Medical University, Austria
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Current Status and Outcomes of Olfactory Neuroblastoma in Japan : An Analysis of 346 Cases from the National Registry and a Long-term Follow-up of 34 Cases at Kyoto University

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Background and Objectives

Olfactory neuroblastoma (ONB) is a rare malignancy, making large-scale data analysis essential for establishing standard treatments. Recently, the Head and Neck Cancer Registry of Japan, maintained by the Japanese Society for Head and Neck Cancer, has clarified the actual clinical status of ONB in Japan. In this symposium, we will outline treatment outcomes based on the latest national data and discuss long-term survival and specific recurrence patterns observed in a follow-up of 34 cases at Kyoto University.

Treatment Outcomes from the National Head and Neck Cancer Registry in Japan

We present the analysis of 346 ONB cases registered between 2011 and 2019 in Japan (Sekimizu et al., 2025).

・Trends in Treatment : The adoption of the endoscopic endonasal approach (EEA) has advanced significantly ; since 2016, endoscopic skull base surgery has become the mainstream alternative to traditional open craniotomy.

・Prognosis : In a subset of 95 patients with available 5-year follow-up data, the 5-year overall survival (OS) was 85. 1%, and the 5-year recurrence-free survival (RFS) was 62. 7%.

・Prognostic Factors : The addition of postoperative radiotherapy (PORT) significantly improved RFS, suggesting its critical role in local control.

Outcomes at Kyoto University (Long-term Follow-up of 34 Cases at a single institution)

Following our previous report of 22 cases (Kikuchi M et al., 2023), we performed a follow-up study on a total of 34 cases (median follow-up : 6 years) including subsequent patients.

・Survival Outcomes : The latest analysis showed excellent survival, with 5-year and 10-year OS of 88% and 82%, respectively, and 5-year and 10-year disease-specific survival (DSS) of 100% and 93%, respectively.

・Recurrence Patterns : Conversely, the disease-free survival (DFS) dropped to 71% at 5 years and 46% at 10 years, highlighting a persistent risk of recurrence over a long period. Notably, in patients who were initially clinically node-negative (cN0), delayed metastasis to the lateral retropharyngeal lymph node (LRN) was a critical recurrence pattern that complicated salvage treatment.

・Proposed Treatment Strategy : Because traditional radiation fields often fail to cover the LRN adequately, we recommend including the LRN region in the prophylactic elective nodal irradiation field along with the primary tumor bed during initial PORT.

Case Presentations and Multidisciplinary Management

In this symposium, we present the following cases to illustrate actual multidisciplinary management of ONB :

・Surgical Technique : A video demonstration of transcervical resection (open neck approach) for LRN recurrence

・Multidisciplinary Approach : Cases of a local recurrence that responded remarkably to CDDP/VP16 therapy, and a long-term survivor who has maintained stable disease (SD) for 19 years following recurrence. This survivor has achieved excellent quality of life through a strategic combination of salvage surgeries, palliative radiotherapy for bone metastases, and systemic therapies including nivolumab and everolimus.

・Novel Therapy : We share our clinical experience using SSTR2-targeted Peptide Receptor Radionuclide Therapy (PRRT ; Lutathera®) as a promising strategy for recurrent or refractory ONB, including a rare case of ectopic ACTH-producing olfactory neuroblastoma.

Conclusion

Both national data and our single-institution long-term follow-up demonstrate that while ONB has a favorable life prognosis, the risk of recurrence persists for more than 10 years. Moving forward, the key to improving long-term outcomes will be risk stratification using molecular profiling (e.g., IDH2, TP53 mutations) and the advancement of precision medicine, including optimized radiation fields and individualized drug therapies.

Short Bio

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En Bloc Resection Strategy and Outcomes for Olfactory Neuroblastoma

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Objective : This study aimed to evaluate the surgical strategy and outcomes for olfactory neuroblastoma (ONB) at our institution, focusing on an en bloc resection-centered approach, and to clarify the advantages of en bloc resection and the utility of multidisciplinary optimization of postoperative radiotherapy (PORT). The cohort comprised 88 patients who received initial treatment from 2012 to 2025.

Methods : We performed a retrospective single-center cohort study. Collected data included demographics (age, sex), tumor extent (Kadish and TNM when available), surgical approach (open craniofacial, endoscopic, or combined), performance of en bloc resection, frequency and results of intraoperative frozen-section margin assessment, final pathologic margin status, indications for and utilization rates of postoperative treatments (radiotherapy, chemotherapy), postoperative complications, local/regional/distant recurrence, disease-free survival (DFS), and overall survival (OS). Institutional protocol prioritized en bloc resection with systematic circumferential sampling of the specimen for intraoperative frozen-section margin assessment ; immediate additional resection was performed when positive margins were identified. Postoperative treatment decisions were individualized by a multidisciplinary conference including ENT/head and neck surgery, neurosurgery, radiation oncology, medical oncology, pathology, and radiology. For patients with negative margins and low-risk features, omission or dose reduction of PORT was considered.

Results : Most of the 88 patients underwent surgery centered on en bloc resection, with the approach selected according to tumor extent (open craniofacial, endoscopic-assisted, or combined). Intraoperative frozen-section margin assessment was performed at a high rate across cases and showed strong concordance with final pathology. Final negative margins were achieved in a substantial number of patients. Five-year OS was 97. 7% ; 3-year RFS and 5-year RFS were 72. 7% and 59. 4%, respectively. Margin-positive resections were associated with a significantly higher recurrence rate. Major complications were infrequent ; reconstruction emphasized functional preservation and quality of life. Clinically important findings included that en bloc resection facilitated intraoperative margin assessment and enabled immediate additional resection when margins were positive. Multidisciplinary coordination allowed radiotherapy planning to focus targets and protect adjacent organs, thereby maximizing radiotherapy benefit while reducing adverse effects.

Discussion : As a retrospective single-center series, this study has limitations including selection bias and follow-up variability. Nonetheless, in a relatively large cohort of 88 patients, a strategy centered on en bloc resection appeared to contribute to favorable local control and survival outcomes and enabled selective use of PORT. The advantages of en bloc resection can be summarized as : (1) reduction of unnecessary postoperative radiotherapy, (2) facilitation of intraoperative frozen-section margin assessment, and (3) ability to maximize PORT effectiveness through multidisciplinary coordination. These advantages support individualized, risk-adapted treatment that may improve the balance of efficacy and safety.

Short Bio

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International Symposium 5 Robotic Surgery : Novel approach in each faculty

How Has Robotic Surgery Altered Indications, Classifications, and Approaches in Head and Neck Surgery?

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Robotic head and neck surgery has seen significant advancements, and new approaches are being developed to improve patient outcomes. Here is a comprehensive overview :

[New Approaches in Robotic Head and Neck Surgery]

1. Transoral Robotic Surgery (TORS) :

Overview : TORS is one of the most widely used robotic approaches in head and neck surgery, especially for treating oropharyngeal cancers.

New Developments :

Enhanced robotic systems with better visualization (3D imaging) and more precise instrumentation.

Integration of artificial intelligence (AI) for better planning and real-time adjustments during surgery.

Use of robotic arms with greater flexibility and range of motion, enabling more intricate procedures.

2. Robotic-Assisted Neck Dissections :

Overview : This approach focuses on the removal of lymph nodes and other structures in the neck through minimally invasive techniques.

New Developments :

Small incisions and robotic instruments allow for precise dissections, reducing the need for large open surgeries.

The adoption of hybrid approaches, combining robotic techniques with traditional methods for complex cases.

3. Single-Port Robotic Surgery :

Overview : This technique uses a single port to access the surgical site, minimizing the number of incisions.

New Developments :

New single-port robotic platforms that allow for greater dexterity and control within a confined space.

Applications in surgeries such as thyroidectomy and parathyroidectomy.

4. Robotic Skull Base Surgery :

Overview : Robotic systems are being adapted to perform surgeries at the base of the skull, traditionally a challenging area to access.

New Developments :

Enhanced navigation systems to precisely guide instruments through intricate pathways.

Improved safety profiles with reduced risk to critical structures such as nerves and blood vessels.

[Indications for Robotic Head and Neck Surgery]

1. Oropharyngeal Cancers :

Particularly HPV-positive cancers, where TORS can offer a less invasive alternative to open surgery.

Indicated for early-stage tumors where surgical access is challenging.

2. Thyroid and Parathyroid Surgery :

Indicated for benign and malignant conditions where minimal scarring and preservation of surrounding tissue are essential.

3. Neck Dissections :

Suitable for patients needing lymph node removal, especially where a cosmetic outcome is a priority.

4. Obstructive Sleep Apnea :

Robotic surgery is used to remove or reposition structures in the airway that contribute to obstruction.

5. Salivary Gland Tumors :

Indicated for selected cases where the tumor is accessible and robotic surgery can minimize nerve damage.

6. Skull Base Tumors :

Indicated for specific tumors where traditional approaches might be too invasive or risky.

[Classification of Robotic Head and Neck Surgery Approaches]

Robotic head and neck surgery can be classified based on :

1. Anatomical Target :

Oropharyngeal Surgery : Includes tonsillar and base of tongue resections.
Neck Surgery : Includes neck dissections, thyroid, and parathyroid surgeries.
Skull Base Surgery : Encompasses operations targeting the anterior, middle, and posterior cranial fossa.

2. Surgical Approach :

Transoral : Access through the mouth.
Transcervical : Access through the neck.
Combined Approaches : Using multiple access points depending on the complexity of the case.

3. Technology Used :

Multi-Port Systems : Traditional robotic systems with multiple arms and ports.
Single-Port Systems : Advanced systems allowing for single incision access.
Hybrid Systems : Combination of robotic and traditional surgical methods.

[Conclusion]

Robotic head and neck surgery is rapidly evolving, with new approaches enhancing precision and expanding the scope of minimally invasive procedures. The indications for these surgeries are also broadening, making it a viable option for various conditions. Classification of these techniques helps in understanding the best approach for each patient, ensuring tailored and effective treatment.

Short Bio

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Transoral Robotic Surgery with Neck Dissection for Hypopharyngeal Cancer

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Background : Transoral robotic surgery (TORS) with neck dissection has emerged as an organ-preserving treatment for hypopharyngeal cancer since a decade ago. This study analyzes long-term prognostic factors to improve management.

Material and Methods : From October 2010 to August 2023, 48 patients with T1-T3 hypopharyngeal cancer, without prior upper aerodigestive tract cancer or irradiation, underwent TORS and neck dissection with/without adjuvant chemoradiation. Perioperative parameters, pathology, adjuvant therapy rates, and survival outcomes were retrospectively analyzed.

Results : Among 48 patients, 37.5% had T1, 45.8% had T2, and 16.7% had T3 tumors. Complete tumor resection was achieved in all cases. Pathologic staging showed 50% had early-stage (I/II) and 50% had late-stage (III/IV) disease. Radiotherapy was spared in 47.92% of cases. After a mean follow-up of 5.9 ± 3.5 years, 5-year overall survival and disease-specific survival rates were both 77%, with a recurrence-free survival rate of 69%. Recurrence was significantly associated with pathologic stage, N stage, and extra-nodal extension ($p < 0.05$). Fifteen patients died, with only two (13.3%) due to local recurrence, one (6.7%) from unrelated causes (Flu), seven (46.7%) from distant metastases, and five (33.3%) from secondary primary cancers.

Conclusion : TORS with neck dissection had low primary recurrence, achieving a 5-year overall survival of 77%. Distant metastases and secondary malignancies remain major causes of mortality.

Keywords : hypopharyngeal cancer ; organ preservation ; survival rate ; transoral robotic surgery ; extra-nodal extension

Short Bio

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Minimally invasive treatment strategies for oropharyngeal cancer : avoiding neck dissection and postoperative treatment

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Transoral Robotic Surgery (TORS) has spread worldwide since it was approved by the U.S. Food and Drug Administration (FDA) in 2005. Over the past 20 years, treatment approaches have changed. In particular, for oropharyngeal cancer which is the main target of this treatment, it has become clear that the presence or absence of HPV infection significantly affects prognosis. So, the TNM classification for oropharyngeal cancers were renewal, and many clinical trials have been conducted aiming to revise treatment guidelines. When TORS is used as an initial treatment, the main points of discussion are whether additional therapies are needed. There is a growing demand for less invasive treatments that maintain quality of life (QOL) after therapy.

In other countries, it has been common to perform neck dissection simultaneously with TORS, and the rates of postoperative radiation therapy or chemoradiation therapy have remained high. De Virgilio et al. showed in 2021, about 68% patients had received adjuvant treatment after TORS.

Recently, clinical trials have been conducted to reduce the amount of postoperative radiation. In contrast, in Japan, neck dissection is not needed for N0 cases. Decisions of postoperative treatment are made based on a comprehensive evaluation of the pathological findings, ie surgical margin is positive, and intraoperative observations. Therefore, the rates of neck dissection and postoperative radiation are lower in Japan.

At our institution, we carefully evaluate cases before treatment. When the primary site extent parapharyngeal space or surrounding muscles and extra lymph node extension (ENE) is detected clearly by some findings, we perform chemoradiation first. TORS on patients who are expected to be cured by surgery alone. If the ENE is unclear, we performed neck dissection first and detected whether ENE exist or not. During 2011 to 2024, TORS for oropharyngeal cancers performed 109 cases. Neck dissection was avoided in approximately 50% of TORS cases, and the rate of postoperative therapy was as low as 4.6%. The recurrence rate was 16.5%, for which additional neck dissection, radiation therapy, or chemoradiation therapy was performed. The 5 year overall survival rate is 81.5% and 5 year recurrent free survival rate is 74.3%.

These findings suggest that patient selection can avoid neck dissection and postoperative therapies. But the study has some limitations, it's a retrospective study and small numbers of cases, so it is expected prospective study and large numbers of cases should be entire.

Short Bio

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Transoral Robotic Surgery for Hypopharyngeal Cancer : Single Institution Experience

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Introduction

Transoral Robotic Surgery (TORS) is a minimally invasive treatment for pharyngeal cancer with excellent outcomes and quality of life preservation. While HPV-related oropharyngeal cancer is increasing globally, alcohol-related hypopharyngeal cancer remains prevalent in Japan. We reviewed our institutional experience with TORS for hypopharyngeal cancer.

Materials and Methods

Between January 2022 and December 2025, 192 TORS procedures for hypopharyngeal cancer were performed among 348 total TORS cases. Treatment outcomes were retrospectively analyzed with institutional review board approval. Circumferential incision was performed using endoscopic laryngo-pharyngeal surgery, followed by resection with the da Vinci Surgical System Xi.

Results

Median age was 70 years (range 44-89) ; 171 males and 21 females. Pathological staging : Tis 111, T1 41, T2 32, T3 8, T4 0 cases. T1-T3 cases accounted for 42%. Two cases with positive deep margins received adjuvant chemoradiotherapy ; one died from metastasis, the other remains disease-free. Two patients died from other causes ; all others remain alive without disease. All patients achieved oral intake postoperatively.

Conclusion

With appropriate selection, hypopharyngeal cancer is a suitable indication for TORS, warranting further investigation.

Short Bio

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