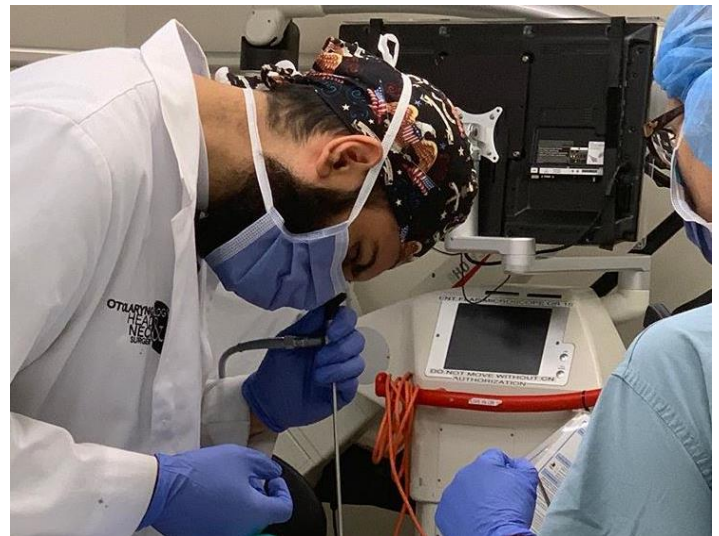
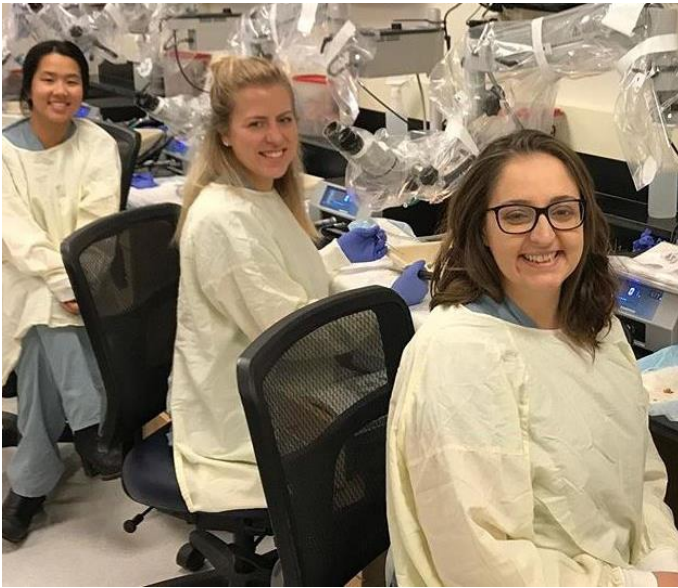


**Department of Otolaryngology
– Head and Neck Surgery
46th Annual (Virtual)
Residents' Research Day
Friday, May 7, 2021**





DISCLOSURES

* I have/have had in the past 2 years a financial interest, arrangement or affiliation with one or more organizations that could be perceived as a direct or indirect conflict of interest in the context or content of this education program.

CONTINUING PROFESSIONAL DEVELOPMENT PLANNING COMMITTEE

Dr. Lorne Parnes



*None

Dr. Josée Paradis



*None

Dr. Kevin Fung



*None

Dr. Kathryn Roth



*Sanofi-Genzyme,
Novartis Canada

Dr. Leigh Sowerby



* Mylan
Pharmaceuticals,
Medtronic, Sanofi-
Genzyme,
GlaxoSmithKline,
Roche, AstraZeneca,
Optinose

SESSION CHAIRS

Dr. Kathryn Roth



*Sanofi-Genzyme,
Novartis Canada

Dr. Anthony Nichols



*Novartis Canada

OBJECTIVES

By the end of this program, participants will be able to:

1. Critically appraise the scientific presentations with respect to methodology and clinical applicability pertaining to Otolaryngology – Head and Neck Surgery.
2. Discuss the scientific presentations and reflect on their potential implications for patient care.

STUDY CREDITS

This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada, and approved by Continuing Professional Development, Schulich School of Medicine & Dentistry, Western University. You may claim a maximum of 3.75 hours (credits are automatically calculated).

Each participant should claim only those hours of credit that he/she actually spent participating in the educational program.



ITINERARY

A.M. SESSION

9:30 – 10:00	Virtual Login	
10:00 – 10:05	Welcome	Dr. Kevin Fung
10:05 – 10:10	Educational Objectives Overview	Dr. Lorne Parnes
10:10 – 10:15	Call to Order	CHAIR: DR. KATHRYN ROTH
10:15 – 10:25	Dr. Ryan Instrum (Supervisor: Dr. Leigh Sowerby) Improving diagnostic accuracy in COVID-19 testing by way of a 3D-printed nasopharyngeal swab simulator: Outcomes of a novel task training system on the frontlines	
10:25 – 10:30	Interactive Discussion	
10:30 – 10:40	Dr. Alexander Dickie (Supervisor: Dr. Murad Husein) Investigating the impact of pollution on the rate of adenotonsillectomy in Southwestern Ontario	
10:40 – 10:45	Interactive Discussion	
10:45 – 11:05	Break/Optional A.M breakout session (based on pre-registration selection)	
11:05 – 11:15	Intermission	
11:15 – 11:25	Dr. Abrar Al Jassim (Supervisor: Dr. Murad Husein) Surgical management of OSA in pediatric Trisomy 21 patients	
11:25 – 11:30	Interactive Discussion	
11:30 – 11:35	Dr. Kevin Fung Introduction of The Distinguished Visiting Professor – Dr. Brian Nussenbaum	
11:35 – 12:20	Dr. Brian Nussenbaum Creating an effective patient safety and quality improvement program in an Otolaryngology-Head and Neck Surgery department: Opportunities and challenges	
12:20 – 12:35	Interactive Discussion	
12:35 – 13:10	Lunch (and Virtual Exhibit Hall Open)	

ITINERARY

P.M. SESSION

13:10 – 13:15	Call to Order	CHAIR: DR. ANTHONY NICHOLS
13:15 – 13:25	Dr. Andrew Bysice (Supervisor: Dr. Adrian Mendez) Canadian patient-reported outcomes in facial nerve palsy and trauma: A modified Delphi analysis	
13:25 – 13:30	Interactive Discussion	
13:30 – 13:40	Dr. James Fowler (Supervisor: Dr. Anthony Nichols) Surgical margins of the oral cavity – Is 5mm really necessary?	
13:40 – 13:45	Interactive Discussion	
13:45 – 14:05	Break/Optional P.M breakout session (based on pre-registration selection)	
14:05 – 14:15	Intermission	
14:15 – 14:25	Dr. Palak Suryavanshi (Supervisor: Dr. Murad Husein) Single blinded randomized controlled trial comparing muscular pharyngeal flap to mucosal/submucosal pharyngeal flap surgical technique for the treatment of velopharyngeal dysfunction.	
14:25 – 14:30	Interactive Discussion	
14:30 – 14:35	Dr. Lorne Parnes Introduction of The Distinguished Guest Alumnus – Dr. Amanda Hu	
14:35 – 15:20	Dr. Amanda Hu Update on unilateral vocal fold paralysis	
15:20 – 15:35	Interactive Discussion	
15:35 – 15:40	Residents' Day Attendee Draw (2 door prizes)	Dr. Kevin Fung
15:40 – 15:45	Presentation of Simon Kirby Most Caring Resident Award	Dr. Lorne Parnes & Dr. Simon Kirby
15:45 – 15:55	Farewell message to PGY5 Residents	Dr. Brian Rotenberg & PGY5 Residents
15:55 – 16:00	Evaluation Form Completion and Announcements	Dr. Lorne Parnes
16:00 – 16:05	Final Educational Comments	Dr. Lorne Parnes
16:05 – onward	Virtual Exhibit Hall Open	
16:30 – onward	Awards Ceremony	

DISTINGUISHED VISITING PROFESSOR

Dr. Brian Nussenbaum, MD, MHCM



Dr. Brian Nussenbaum is the Executive Director of the American Board of Otolaryngology-Head and Neck Surgery. He received his medical degree from New York University School of Medicine in 1994 and completed a residency in otolaryngology-head and neck surgery at the University of Texas Southwestern Medical Center in 2000. He joined Washington University School of Medicine in 2002 after completing a two-year head and neck oncology and microvascular fellowship at the University of Michigan Health System. He completed the Masters in Healthcare Management (MHCM) degree program at the TH Chan Harvard School of Public Health in May 2018.

While a faculty member at Washington University School of Medicine, Dr. Nussenbaum served as the Vice Chair for Clinical Affairs in the Department of Otolaryngology, Division Chief of Head and Neck Surgery, Co-Director of the Fellowship in Head and Neck Surgery and chair of the Conflicts of Interest Review Committee (CIRC) for the School of Medicine. He became well known nationally with respect to the clinical management of head and neck cancer. He was also the Patient Safety Officer in the Department of Otolaryngology since 2009, and has been active on both local and national levels with advancing the patient safety/quality improvement (PSQI) movement. He has lectured extensively about head and neck cancer and PSQI, and served leadership roles in these areas with several national organizations. He was previously grant funded through the National Institutes of Health for research on the BMP pathway as related to oral cancer and through local funding sources for several PSQI initiatives. Dr. Nussenbaum has greater than 125 peer-reviewed publications.

Nationally, Dr. Nussenbaum was elected to be the co-chair for the Recurrent-Metastatic Disease Task Force of the Head and Neck Steering Committee for the NCI/NIH. He completed a four-year term as the Secretary-Treasurer for the Middle Section of The Triological Society, and was the Middle Section Vice President for this organization in 2015. He was elected to the Nominating Committee for the AAO-HNSF in 2013. Dr. Nussenbaum is currently the Secretary-Treasurer of the Society of University Otolaryngologists (SUO). He currently serves on the editorial boards of Oral Oncology, JAMA Otolaryngology Head and Neck Surgery, and ENT Today. Nussenbaum was the recipient of a Distinguished Service Award from the AAO-HNSF in 2013.

Dr. Nussenbaum was certified by the American Board of Otolaryngology in 2001. He participates in the Maintenance of Certification program for his board.

DISTINGUISHED GUEST ALUMNUS

Dr. Amanda Hu, BA, MD, FRCSC

Dr. Hu is a Clinical Associate Professor in the Division of Otolaryngology, Department of Surgery, University of British Columbia. She is sub-specialized in Laryngology (Care of the Professional Voice) and is the Director of the Pacific Voice clinic. Dr. Hu graduated from medical school at the University of Toronto (2006), trained in residency in Otolaryngology at Western University (2011), and completed a Laryngology fellowship at the University of Washington in Seattle (2012) with Dr. Albert Merati. She worked in Philadelphia at Drexel University with Dr. Robert Sataloff for 5 years prior to joining UBC in August of 2018.

Dr. Hu is currently the Undergraduate Medical Education Director for the ENT Division at UBC where she has a leadership role in training the UBC medical students. She is actively involved with research and is the author of 76 peer reviewed papers, 9 book chapters, and 64 conference presentations. Dr. Hu is the recipient of local, national, and international awards, including the H. Rocke Robertson Teaching Award from UBC, the Harold Myers Award for Distinguished Service from Drexel University, the Physician 40 under 40 Award from the Pennsylvania Medical Society, and the Queen's Golden Jubilee Medal from Her Majesty Queen Elizabeth II.



ABSTRACTS IN SPEAKER ORDER





Improving diagnostic accuracy in COVID-19 testing by way of a 3D-printed nasopharyngeal swab simulator: Outcomes of a novel task training system on the frontlines

Dr. Ryan Instrum

(Supervisor: Dr. Leigh Sowerby)

Background: Diagnostic testing for COVID-19 involves collection of upper respiratory specimens with subsequent nucleic acid amplification tests, and nasopharyngeal (NP) swabs are the preferred sampling method, as per Public Health Ontario. Test reliability is contingent on sample quality and directly related to collection practices as improperly obtained specimens may yield erroneous or inconclusive results. High false-negative rates are reported in the literature which may have deleterious public health implications. In response to diagnostic uncertainty, we have created and adapted a patient simulator for nasal swab task training. The realistic 3D-printed simulator, developed to scale from CT-generated anatomical data, may assist in rapidly educating frontline workers on best practices for performing nasal swabs.

Study Objectives: To assess the realism and educational potential of the Nasal Swab Task Trainer in real-world scenarios. Feedback on the simulator has been gathered to identify areas for potential optimization prior to large-scale implementation.

Methods: Nasal swab training and data collection were conducted remotely at six COVID testing sites in Ontario. Participants were frontline workers performing diagnostic NP swabs at assessment centers. Task training simulators were provided at each site, and an online-based training module and questionnaire were administered to participants. Demographic data were collected including: educational background, NP swab experience, and daily swab frequency. The Nasal Swab Task Trainer included integrated video recording capability allowing participants to retrospectively view each swab attempt and evaluate their accuracy at each stage of training. Likert scale data and feedback were generated regarding the educational value and procedural fidelity of the task trainer itself as well as the associated training modules.

Results: 62 individuals were included in the study. Participants were primarily registered nurses (52%) or EMS paramedics (16%). Reported mean NP swab experience was 1.4 years (SD 3.09), and individuals performed a mean of 29 NP swabs per day (SD 38). Prior to task trainer utilization, 64% of participants felt confident that they were collecting proper NP samples. However, after reviewing their first swab attempt using the task trainer, only 29% believed their swab was performed correctly. After task trainer usage and module completion, self-assessed accuracy improved in 77% of individuals. Improvement was observed in all participants who expressed a lack of confidence prior to training. 94% reported that the videos and task trainer provided a complete educational experience for those new to swabbing. Use of the task trainer was regarded as a more valid training approach than what is available currently in 82% of participants. 81% of individuals indicated that the Nasal Swab Task Trainer should be used at all COVID-19 testing sites to ensure consistent, high-quality testing, with 77% feeling as though province-wide implementation was warranted.

Conclusion: The Nasal Swab Task Trainer is a valid tool with considerable educational potential for individuals performing transnasal swabs. The simulator appears well-suited as a training system for those performing diagnostic swabs on the frontlines of COVID care as well as in other nasal swab applications. Pilot data suggest that the task trainer represents a more valid approach than what is currently available and may warrant large-scale implementation..

NOTES



Canadian patient-reported outcomes in facial nerve palsy and trauma: A modified Delphi analysis

Dr. Andrew Bysice

(Supervisor: Dr. Adrian Mendez)

Background: Facial nerve dysfunction arising from surgical, traumatic, malignant, vascular, or reactive causes can affect up to 9,500 Canadians each year. These patients may experience devastating deficits of non-verbal communication, social interaction, expression, chewing, and eye function. To date, post-treatment experiences of Canadian facial nerve palsy patients have yet to be characterized.

Study Objective: Qualitatively describe outcomes most important to Canadian patients experiencing facial nerve dysfunction and synkinesis. Present foundational data to inform development of a Patient-Reported Outcome Measure (PROM) for evaluation of patient satisfaction and outcomes in facial nerve dysfunction.

Design Type: A modified Delphi technique was employed, consisting of the transcription and coding of standardized individual interviews for domain and theme identification, followed by small-group cognitive interviewing to elicit relative importance of domains.

Methods: Participants were selected from the Facial Nerve Dysfunction clinic at Victoria Hospital (London, Ontario). Participants (n=20) were contacted via recorded telephone call and asked a series of three open-ended questions pertaining to their respective facial nerve disorder regarding day-to-day activity, social interaction, and available targets for treatment improvement. Interviews were transcribed and thematically coded in random order by a trained, individual observer. Subsequently, iterative small group (n=4) discussion and interviewing was used to develop consensus on relative domain importance.

Results: From 20 patient recordings, 34 codable themes were detected. Coded responses were categorized into six overarching domains: Cognition, Expression, Function, Hygiene, Social and Treatment. Within cognition, patients expressed self-consciousness (24) and low mood (8) as primary concerns. Expression concerns centred around smile (30) and facial symmetry (17). Function concerns included eye closure (26) and speech (16). With regards to Hygiene, the largest reference was eating (15) followed by drooling (4). Social domain revealed majority of patients avoided public appearance (25) with concerns of judgment of facial nerve dysfunction (19). Finally, treatment theme showed desire for improvements for treatment of eye care (19) and advancements of surgery (13). Small group consensus was that Treatment was most important, followed by Function and Expression respectively.

Conclusion: Canadian patients express that "Treatment Availability and Options" was the most valued outcome following facial nerve dysfunction from any cause. Patients were primarily concerned about eye closure and issues with speech. Finally, patients were bothered by their smile and facial symmetry. This data will aid in the development patient-driven analytics to assist clinicians with assessment and measurement of facial function outcomes.

NOTES



Surgical margins of the oral cavity – Is 5mm really necessary?

Dr. James Fowler

(Supervisor: Dr. Anthony Nichols)

Background: Squamous cell carcinoma is the most common type of malignancy within the oral cavity, accounting for approximately 90% of cancers. Primary treatment of squamous cell carcinoma in the oral cavity involves surgical resection of the tumour with a surrounding margin. Historically, the most commonly accepted margin clearance is 5 mm. This distance has been heavily debated, with recent publications suggesting closer margins do not significantly impact risk of local recurrence.

Objectives: Analyze local London data to determine the closest surgical margin that does not lead to worse local recurrence or negatively impact overall survival (OS).

Methods: Retrospective review of patients with squamous cell carcinoma of the oral cavity treated with surgery (\pm adjuvant radiotherapy/chemotherapy) at the London Health Sciences Centre head and neck multidisciplinary clinic between 2010 and 2018. Patients with prior head and neck cancers were excluded. Demographic data, subsite, staging, treatment modality, margins, recurrence and survival data were all included in the analysis. Primary endpoints included OS, recurrence-free survival (RFS), local RFS (LRFS), and freedom from local recurrence (FFLR). Descriptive statistics, as well as univariable and multivariable Cox proportional hazards regression modelling were performed for all patients.

Results: A total of 412 patients were identified with a mean \pm SD age of 63.7 ± 12.3 years and median follow-up of 3.3 years. The majority of patients had good performance status (90.5%, ECOG 0-1) and were current or former smokers (76.6%), while 37.1% were current or former heavy drinkers. The most common subsite was the oral tongue (46.8%) followed by the floor of mouth (16.5%). The majority of patients presented with early stage disease (T1-2, 58.3%) and node negative (68.9%). Seventy-five percent of patients underwent neck dissection(s). Adjuvant therapy was delivered to 46.6% of patients, of which 27.4% received radiation alone, while 18.0% received chemoradiation. Positive margins occurred in 18.5% of cases, and margins of greater than 5 mm were obtained in only 12.7% of cases. Compared to > 5 mm margins, positive margins and 0-1 mm margins were associated with poorer OS, RFS, and LRFS on univariable analysis ($p < 0.05$), however there was no difference in outcomes between > 5 mm margins and 1-2 mm, 2-3 mm and 3-5 mm margins. The need for an intraoperative margin re-excision was associated with poorer LRFS ($p = 0.040$). Multivariable analysis identified age, alcohol use, pathological T and N category as predictors of LRFS (margin status was not retained in final model).

Conclusions: Although historical margins for head and neck surgery are 5 mm, similar outcomes were observed for margins greater than 1 mm in our cohort. These findings require validation through multi-institutional collaborative efforts.

NOTES



Single blinded randomized controlled trial comparing muscular pharyngeal flap to mucosal/submucosal pharyngeal flap surgical technique for the treatment of velopharyngeal dysfunction

Dr. Palak Suryavanshi

(Supervisor: Dr. Murad Husein)

Background: Velopharyngeal dysfunction (VPD) is a condition in which the nasal part of the airway does not close properly during speaking and feeding. VPD can be treated through speech language therapy, however, when refractory, surgical correction is indicated. Current surgical management includes a muscular pharyngeal flap. While this surgery has a high success rate, there can be morbidity such as pain, bleeding and altered wall motion.

Objective: The objective of this study is to examine if a mucosal/submucosal only pedicled pharyngeal flap is noninferior to a muscular pharyngeal flap for the treatment of VPD.

Methods: Eighteen patients with VPD were randomly assigned into two surgical groups: a muscular pharyngeal flap (control group) or a mucosal/submucosal pharyngeal flap (experimental group). Selection for surgery is based upon a diagnosis of VPD, and symptoms refractory to speech language therapy. All surgeries were performed by the same surgeon. The primary outcome of the study was to assess the noninferiority of experimental vs control group on post-operative improvement of hypernasality assessed through the American Cleft Palate-Craniofacial Association (ACPA) perceptual assessment; a noninferiority limit of 1 point mean difference in post-op hypernasality was set. Secondary outcomes of this study were other speech outcomes assessed by an SLP including the remainder of the variables on the ACPA, and nasometry using MacKay-Kummer Simplified Nasometric Assessment Procedures Revised (SNAP-R) scores; self-assessed post-operative pain and analgesic medication use for 1 week following surgery were also evaluated. Preliminary ACPA and SNAP-R assessments were completed before surgery. Follow-up was completed at three points: Day of surgery, short term (< 6 months post-op), and long term (> 6 months post-op).

Results: A total of 18 patients underwent surgery (n = 10 experimental group, and n = 8 control group) to correct their VPD (n=12 female, and 6 male). Average age at diagnosis of VPD was 7.61 years (range 3 to 22 years). Average age at surgery was 10.33 (range 5 to 23 years). Hypernasality was present in all patients prior to surgery. Based on chi-square and fisher exact tests, with the exception of gender (higher proportion of females in the submucosal group vs the muscular group ($\chi^2 = 5.51$, $p = .04$); the two groups are comparable in terms of clinical profiles.

The primary outcome showed that over 6 months noninferiority has been established for hypernasality. With an upper equivalence differential of 1, noninferiority of the experimental group (mean (SD) = 1.5 (.76) to the control group (mean (SD) = 1.4 (.89) was observed (upper 95% CI = .93; $t = -1.95$, $p = .04$). Repeated measures ANOVA for pain scores (worse, best, current pain for 1 week following surgery); and for analgesic doses (total analgesia doses for 1 week following surgery) - both determined that the effect of surgery on study outcomes were non-significant and that use of analgesia decreased over time ($p < .001$). The effect of surgery on SNAP-R scores was also non-significant; SNAP-R scores decreased (improved) between pre- and short-term and pre- and long-term post-op for the cohort ($p = .04$).

Conclusion: We determined that there is non-inferiority of the submucosal/mucosal pharyngeal flap when compared to the traditional muscular pharyngeal flap at greater than 6 months following surgery with respect to mean hypernasality. Remainder of the outcomes showed no significant between-group difference as measured by the ACPA, SNAP-R and pain scores..

NOTES

AWARDS AND PRIZES

SIMON KIRBY MOST CARING RESIDENT AWARD

Presented to the resident who demonstrates excellence in compassionate care

OUTSTANDING RESIDENT TEACHER AWARD FOR POSTGRADUATE EDUCATION

Presented to a senior resident (PGY 4 or 5) who has provided consistently outstanding teaching experiences to their junior residents

CHESKI INNOVATIVE RESIDENTS RESEARCH FUND AWARD

Presented for the most novel research project

UNDERGRADUATE TEACHING AWARD

Presented to the resident with the highest teaching evaluation

EXCELLENCE IN UNDERGRADUATE MEDICAL EDUCATION AWARD

Presented to a faculty member who has demonstrated excellence in undergraduate medical education to all students

PETER CHESKI INNOVATIVE RESEARCH AWARD

Presented for the most innovative research project

C. A. THOMPSON SCIENTIFIC ACHIEVEMENT AWARD

Presented for the most impactful research project

DR. W. GREGORY CHERNOFF IMPACTFUL PRESENTATION AWARD

Presented for the most skillfully presented project

RESIDENT AWARDS

Presented to residents who did not receive one of the above awards

CLINICAL TEACHERS AWARD FOR RESIDENCY TEACHING

Presented to a faculty member who has provided consistently outstanding teaching experiences to all Residents



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