Canadian Society of Otolarynology-Head and Neck Surgery

74th ANNUAL MEETING (Virtual)
September 26 – November 14, 2020

"Quality and Excellence in Otolaryngology-Head and Neck Surgery"

Tuesday, October 6, 2020 @ 9:05 p.m. – Educational Papers   Moderator: Dr. Paolo Campisi

09:05 p.m. - 09:10 p.m.   *Evaluating the Effectiveness of Learning Ear Anatomy Using Holographic Models* - **J. Beyea, J. Gnanasegaram, R. Leung,** Kingston, ON

Learning Objectives
To evaluate the feasibility and effectiveness of learning ear anatomy using holographic (augmented reality) anatomic models in comparison to traditional 2-D learning methods (i.e., didactic lecture and web-based computer module).

Abstract
BACKGROUND: Computer-assisted learning has been shown to be an effective means of teaching anatomy, with 3-D visualization technology more successfully improving participants' factual and spatial knowledge in comparison to traditional methods. To date, however, the effectiveness teaching ear anatomy using augmented reality has not been studied. The present study aimed to evaluate the feasibility and effectiveness of learning ear anatomy using a holographic (HG) anatomic model in comparison to didactic lecture (DL) and computer module (CM). METHODS: A 3-D anatomic model of the middle and inner ear was created and displayed using presentation slides in a lecture (DL), online module (CM), or via the Microsoft Hololens (HG). Twenty-nine medical students were randomized to one of the three interventions. All participants underwent assessment of baseline knowledge of ear anatomy. Immediately following each intervention, testing was repeated along with completion of a satisfaction survey. RESULTS: Baseline test scores did not differ across intervention groups. All groups showed an improvement in anatomic knowledge post-intervention (p<0.001); the improvement was equal across all interventions (p=0.06). Participants rated the interventions equally for delivery of factual content (p=0.96), but rated the HG higher than the DL and CM for overall effectiveness, ability to convey spatial relationships, and for learner engagement and motivation (p<0.001). CONCLUSIONS: Holographic (augmented reality) technology is an effective method of teaching ear anatomy as compared to DLs and CMs. Furthermore, it is better at engaging and motivating learners compared to traditional methods, meriting its inclusion as a tool in undergraduate medical education curriculum.

09:10 p.m. - 09:15 p.m.   *Knowledge and Confidence in Managing Obstructive Sleep Apnea Patients in Canadian Otolaryngology-Head and Neck Surgery Residents* - **S. Ansari, A. Hu,** Vancouver, BC

Learning Objectives
1. To learn about Otolaryngology-Head and Neck Surgery Residents' knowledge and confidence in managing OSA. 2. To understand the perceived strengths and weaknesses in sleep medicine training within Canadian Otolaryngology-Head and Neck Surgery residency programs.

Abstract
Background: Sleep medicine is an expected competency for Otolaryngology residents and tested on the Royal College of Physicians and Surgeons examination. Our objective was to evaluate the knowledge and confidence of Canadian Otolaryngology residents in managing Obstructive Sleep Apnea (OSA) patients. **Methods**: An anonymous, online, cross-sectional survey of all Canadian Otolaryngology residents was distributed according to the Dillman Tailored Design Method in English and French. The previously validated OSA Knowledge and Attitudes (OSAKA) questionnaire was administered along with procedure-specific confidence level questions. **Results:** Fifty-six (33%) out of 172 residents responded (60.7% male; 82.1% English-speaking). Mean OSAKA knowledge score was 15.1/18 (84.1%) +/- 1.8/18 (10.1%). Although all respondents believed that OSA was an important clinical disorder, only 37.5% felt confident in managing OSA patients. This result was not significantly different when gender, language of instruction and clinical level of training were compared. For procedure-specific questions, residents expressed lower confidence levels in performing hyoid suspension (1.8%), hypoglossal nerve stimulation (1.8%), palate procedures excluding uvulopalatopharyngo-plasty (6.8%), drug-induced sleep endoscopy (DISE) (23.2%), lingual tonsillectomy (25.0%), septorhinoplasty (25.0%), and uvulopalatopharyngo-plasty (28.6%). Higher confidence

levels were described in performing septoplasty (51.8%), adult tonsillectomy (73.2%), and tracheotomy (75.0%). Senior resident confidence levels were significantly higher than junior residents for all procedures (p<0.01) except hyoid suspension, hypoglossal nerve stimulation and DISE. **Conclusions:** Otolaryngology residents' knowledge of sleep medicine was very good; however, confidence levels for managing OSA were varied. Several areas of perceived strengths and weaknesses in sleep medicine training were identified in Canadian Otolaryngology Residency programs.

09:15 p.m. - 09:20 p.m.   ***The Use of Combined Otolaryngology and Anesthesia Simulation for the Development of CANMEDS Roles in Surgical Training* - J. Paradis, K. Roth, K. Fung, R. Cherry, B. Church,** London, ON

Learning Objectives
To present the implementation of a combined otolaryngology-anesthesia theater-based simulation sessions in the post-graduate curriculum; 2) to demonstrate that such simulation session service to influence residents perceived abilities to complete many competencies highlighted by CanMeds

Abstract
The development of CanMeds roles is essential in surgical training. At Western, we integrated a novel combined Otolaryngology and Anesthesia theater-based simulation activities in the resident curriculum to address the CanMeds and non-medical expert roles.   Participants in the inaugural session included 4 otolaryngology and 4 anesthesia residents. **Methods:** All residents participated in the simulation pre-brief, simulation scenarios, debriefs, and completion on three validated scale. **Results:** Interprofessional collaborative competencies attainment survey (ICCAS) (possible range 20-140). Mean retrospective pre-simulation score was 118, and mean post simulation score was 122. All six subscales showed a positive pre-post score change in their perceived abilities to meet the following competencies: communication (3%), collaboration (5%), roles and responsibilities (4%), collaborative patient/family-centered approach (1.5%), conflict management/resolution (2.5%), and team functioning (5%).   Satisfaction with simulation experience (SSE) scale: Mean scale score was 77 (possible range 18-90). The KidSIM attitudes towards teams in training undergoing designed educational simulation questionnaire. Mean scale score was 124 (possible range 30-150). "Relevance of simulation" and "roles and responsibilities" were the two highest scored subscales both scoring 26/30. **Conclusions:** Residents were satisfied with and perceived the combined otolaryngology-anesthesia simulations as "relevant" to their training. Further, the intervention of the combined simulation activity positively influenced residents perceived abilities towards necessary CanMEDs competencies. Further similar session will be completed in the near future and further data is being collected.

09:20 p.m. - 09:25 p.m.   Discussion

09:25 p.m. - 09:30 p.m.   ***Self-Perceived Stress Response to' Critical Cases' During Surgical Training* - J. Paradis, A. Dzioba,** London, ON

Abstract
Introduction: Work-related stressors have been shown to adversely affect the health of practicing physicians and negatively influence their job performance. However, there is a paucity of research evaluating the impact of work-related stress in surgery residents. Residency training can be demanding and residents can experience a wide variety of professional difficulties that can escalate to a chronic level of mental stress. The purpose of this study is to evaluate surgical residents' self-perceived stress response to critical cases during surgical training. **Methods:** Fourth year post-graduate surgical residents enrolled at Western University were invited to participate in a cross-sectional survey study. Participants completed the Post-Traumatic Stress Disorder (PTSD) checklist and a survey of their current working scenario (support system, level of stress and debrief session). **Results:** Twenty-one (53.5%) surgical residents completed the surveys. Fifteen (71.4%) were male. The average total number of critical cases participants encountered during their residency program was 36.63 [range 2 to 200]. The mean PTSD total score was 28.52 [range 18 to 40]. Four (19%) participants reported clinically significant PTSD. The majority of participants (71.4%) rated their typical day as moderately stressful; the majority of participants (88.9%) preferred to talk to another resident or colleague after a critical event has occurred. **Conclusion:** Results of the present investigation indicate that one in five senior surgical residents experience clinically significant symptoms of PTSD. Results support the need to implement a system in the department of surgery that will provide a better support to surgery residents.

09:30 p.m. - 09:35 p.m.   ***Benefits of the National Surgical Quality Improvement Program: Data to Drive Quality Improvements* - P. Singh,** Toronto, ON

Learning Objectives
1) Discussion of NSQIP, how it works, and it's benefits 2) Use of NSQIP Data to help drive Quality Improvement.

Abstract

Objectives: Overview of the National Surgical Quality Improvement Program (NSQIP) and benefits to a Surgical Department or Division.
Background: The National Surgical Quality Improvement Program is a powerful data-tracking software developed by the American College of Surgeons. It provides reliable and valuable data on a variety of 30-day post-operative outcomes with comparison to peer hospitals. It serves to identify areas of improvement for a surgical department or division. **Methods:** This podium presentation will focus on:
- Background and History of NSQIP
- How NSQIP works
- What NSQIP does and how it galvanizes quality improvement
- Actual and theoretical NSQIP Benefits to a Surgical Department or Division
- Challenges and shortcomings of NSQIP

(no further information provided.)

09:35 p.m. - 09:40 p.m. ***Otolaryngology Trainees' Experiences of and Attitudes Towards Workplace Based Assessments - R. Care, T. Jowsey,*** Christchurch, NZ

Learning Objectives
1) To examine ORL trainees' experiences of and attitudes towards WBAs; 2) To identify what ORL trainees see as the benefits and drawbacks of WBAs; 3) To present to what extent ORL trainees think WBAs affect their learning during training and to use this data to develop an understanding of how trainees' experiences of or attitudes towards WBAs impact upon their perceived value; 4) To use this data and the accompanying literature to develop recommendations for improvements in the application of WBAs in ORL training in NZ.

Abstract
INTRODUCTION: workplace-based assessments (WBAs) are frequently used assessment tools. As there is a move towards competency-based training across medical specialties WBAs are being used more often including in the Royal Australasian College of Surgeons Otolaryngology Surgical Education and Training scheme. Recently implemented change moving towards competency-based training has led to an increase in the type and frequency of WBAs required. This research aims to investigate New Zealand otolaryngology trainees' experiences of and attitudes towards WBAs and how these affect trainees; perceptions of the value of the WBAs within training. METHODS: Following Corbin & Strauss (1990), this research draws on grounded theory. Semi-structured interviews were performed. Data was analysed for recurring themes using a constant comparison method. RESULTS: Data derived from thirteen participant interviews revealed five major themes: 1) experience of managing the assessment load, 2) variability and value, 3) negative experiences and perceptions of WBAs, 4) perceived roles of WBAs in training, 5) aspects valued by trainees. These were used to build a theoretical model. The model suggests that negative and positive experiences of WBAs informs future engagement with WBAs and trainee learning. CONCLUSION: Trainees' experiences of and attitudes towards WBAs significantly affect the way trainees perceive the value of WBAs within their training. Based on the findings five key recommendations were made: 1) allocating time for teaching and WBAs, 2) education of trainees and assessors in WBAs, 3) review of the current system, 4) change of focus with progression of training, 5) consideration of the use of technology.

09:40 p.m. - 09:45 p.m. ***Surgical Training and Deliberate Practice: Creating a Validated Scale to Measure Surgical Residents' Approach to Surgical Training - J. Paradis, K. Nelson-Ferguson,*** London, ON

Abstract
Surgical training programs across Canada have initiated a change from a traditional training model to a model embracing Competency Based Medical Education (CBME) to improve physician training and enhance lifelong learning. CBME emphasizes self-directed learning and focuses on performance outcomes with a de-emphasis on time-based training. Elements of CBME reflect the well-known theoretical framework of deliberate practice (DP), where research has shown that learner-centered, goal-oriented practice can lead to a progressively higher standard of excellence. In theory, utilizing DP in a medical context could result in improved surgical training and in turn better patient outcomes. Little is known about how surgical residents approach their training and if elements of DP are observed. Therefore, the purpose of this study was to create a validated scale measuring principles of deliberate practice, in surgical residents' approach to surgical training. Focus groups with junior and senior residents (N = 8) were conducted. By employing deductive and inductive thematic analysis techniques, three themes were extracted from the data (i.e., learning resources and strategies, role of a junior/senior, and approaching weaknesses). Based on the analysis, a 39-item scale was constructed. Expert surgeons (N = 5) were asked to provide feedback on items of the scale to determine efficiency and missing items, which was then revised accordingly. Currently, pilot data is being collected with surgical residents at Western to validate the scale. This will help to identify learning across the spectrum of DP and provide educators and trainees with tools to improve their surgical training.

9:45 p.m. - 09:50 p.m. Discussion