

Department of Otolaryngology  
- Head and Neck Surgery



45<sup>th</sup> Annual Residents'  
**Research Day**

**Friday, May 10, 2019**

Joanne and Kenny Theatre  
Darryl J. King Student Life Centre  
King's University College  
Western University, Canada

Western 

 **Schulich**  
MEDICINE & DENTISTRY

## CONTINUING PROFESSIONAL DEVELOPMENT PLANNING COMMITTEE MEMBERS DISCLOSURE FORM

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.

Lorne Parnes	None
Josee Paradis	None
Julie Strychowsky	None
Kathryn Roth	Hoffmann-La Roche, EMD Serono
Leigh Sowerby	Mylan Pharmaceuticals, GlaxoSmithKline, Roche, AstraZeneca, Medtronic
Kevin Fung	None

## LEARNING OBJECTIVES

1. To critically appraise the scientific presentations with respect to methodology and clinical applicability pertaining to Otolaryngology – Head and Neck Surgery.
2. To actively participate in the discussions surrounding scientific presentations with reflection on 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 **5.0 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

8:00 – 8:25	COFFEE IN THE EXHIBITOR AREA	
8:25 – 8:35	WELCOME	Dr. Kevin Fung
8:35 – 8:45	EDUCATION OBJECTIVE OVERVIEW	Dr. Lorne Parnes
8:45 – 8:50	CALL TO ORDER	

## AM CHAIR: DR. LEIGH SOWERBY

8:50 – 9:00	Dr. Hannah Ernst	Evaluating the Impact of Adenotonsillectomy for Pediatric Sleep-disordered Breathing on Parental Sleep ( <i>Supervisor: Dr. J. Strychowsky</i> )
9:00 – 9:05	<i>INTERACTIVE DISCUSSION</i>	
9:05 – 9:15	Dr. Khrystyna Ioanidis	A Cost and Efficiency Analysis of Performing Myringotomy with Tube Insertion Procedures in the Minor Procedure Room Compared to the Operating Room ( <i>Supervisor: Dr. J. Strychowsky</i> )
9:15 – 9:20	<i>INTERACTIVE DISCUSSION</i>	
9:20 – 9:30	Dr. Gina Trinh	Head and Neck Cancer Survivorship: Identifying Unmet Needs through a Multidisciplinary Working Group ( <i>Supervisor: Dr. D. MacNeil</i> )
9:30 – 9:35	<i>INTERACTIVE DISCUSSION</i>	

## 9:35 – 10:05 MORNING NUTRITION BREAK WITH EXHIBITORS

10:05 – 10:10	CALL TO ORDER	
10:10– 10:20	Dr. Stefan Hamilton	A Retrospective Study of the Natural History of Thyroid Nodules with Indeterminate Cytopathology ( <i>Supervisor: Dr. D. MacNeil &amp; Dr. M. Weir</i> )
10:20 – 10:25	<i>INTERACTIVE DISCUSSION</i>	
10:25– 10:35	Dr. Kiersten Pianosi	Cystic Fibrosis and Chronic Rhinosinusitis in the Pediatric Population: Factors Influencing Disease Progression ( <i>Supervisor: Dr. M. Husein</i> )
10:35 – 10:40	<i>INTERACTIVE DISCUSSION</i>	
10:40 – 10:45	Dr. Lorne Parnes	<b>Introduction of The Distinguished Visiting Professor – Dr. Albert Merati</b>
10:45 – 11:30	<b>Dr. Albert Merati</b>	<b>Leadership: Is It About Me or Is It About You?</b>
11:30 – 11:45	<i>INTERACTIVE DISCUSSION</i>	
11:45 – 12:05	Group Photo	

## 12:05 – 1:05 LUNCH IN LABATT HALL

1:05 – 1:20 Welcome Back

Dr. Lorne Parnes

PM CHAIR: DR. JULIE STRYCHOWSKY

1:20 – 1:25 CALL TO ORDER

1:25 – 1:35 Dr. Camilla Stepniak Efficacy of Balloon Dilation of the Eustachian Tube  
1:35 – 1:40 *INTERACTIVE DISCUSSION* (Supervisors: Dr. L. Sowerby & Dr. B. Rotenberg)

1:40 – 1:50 Dr. Benjamin van der Woerd VOice Analysis with Iphones: A Low Cost  
1:50 – 1:55 *INTERACTIVE DISCUSSION* Experimental Solution (VOICES) (Supervisor: Dr. K. Fung, Dr. P. Doyle, & Dr. V. Parsa)

1:55 – 2:05 Dr. Laura Kim The Prevalence of HPV-Associated Head and  
2:05 – 2:10 *INTERACTIVE DISCUSSION* Neck Carcinomas and its Implications: A Literature Review and Systematic Analysis (Supervisor: Dr. D. MacNeil)

2:10 – 2:20 Dr. Neil Mundi Gender Disparity in Head and Neck Cancer Driver  
2:20 – 2:25 *INTERACTIVE DISCUSSION* Genes: An Analysis of the TCGA Dataset (Supervisor: Dr. A. Nichols)

2:25 – 2:55 AFTERNOON NUTRITION BREAK WITH EXHIBITORS

2:55 – 3:00 CALL TO ORDER

3:00 – 3:10 Dr. Peng You Improving Timeliness in Discharge Summary  
3:10 – 3:15 *INTERACTIVE DISCUSSION* Distribution: A Quality Improvement Initiative in Otolaryngology Head and Neck Surgery (Supervisor: Dr. J. Strychowsky)

3:15 – 3:20 Dr. Kathryn Roth **Introduction of The Distinguished Guest Alumnus – Dr. Gregory Chernoff**

3:20 – 4:05 **Dr. Gregory Chernoff** **The Future of Cellular Medicine,**  
4:05 – 4:20 *INTERACTIVE DISCUSSION* **Regenerative/Stem Cell Therapy in Oncology, Functional and Cosmetic Conditions**

4:20 – 4:30 RESIDENTS' DAY ATTENDEE DRAW Dr. Kevin Fung

SIMON KIRBY MOST CARING RESIDENT AWARD

Presented by Diadema Odzakovic, Michele Ivanouski, and Tina Brown

4:30 – 4:35 EVALUATION FORM COMPLETION AND ANNOUNCEMENTS Dr. Lorne Parnes

4:35 – 4:40 FINAL EDUCATIONAL COMMENTS Dr. Lorne Parnes

***DISTINGUISHED VISITING PROFESSOR***  
**Dr. Albert Merati**



**Albert Merati, M.D., F.R.C.S.** is an internationally recognized leader in Otolaryngology. Following medical school at the University of Washington under Charlie Cummings, he completed his Otolaryngology training under Jeffrey Harris, MD PhD at UCSD, including one year of NIH research training in laryngeal muscle biology. From there, Dr. Merati went to Vanderbilt to study Laryngology with Dr. Robert Ossoff at the premier training institution for academic laryngologists. This time at Vanderbilt included work with Dr. Jim Netterville on laryngeal framework surgery. Following very productive years at KU and at the Medical College of Wisconsin, Dr. Merati returned to his native Seattle to head up the Laryngology program at the University of Washington, now widely recognized among the leaders in

clinical care, scholarship, and training in the nation. He has over 110 peer reviewed publications and also is the lead editor for the Textbook of Laryngology. Dr. Merati has served as Senior Examiner for the American Board of Otolaryngology and also on the Councils of the Triological Society and the American Broncho-Esophagological Association (now serving in the role of President-Elect of the ABEA). Dr. Merati has earned two Distinguished Service awards from the American Academy of Otolaryngology - Head & Neck Surgery/Foundation and currently serves the executive council of the AAOHNS/F in the role of President.

***DISTINGUISHED GUEST ALUMNUS***  
**Dr. Gregory Chernoff**



**Gregory Chernoff, M.D., F.R.C.S.(C)** is a Triple Board Certified Facial Plastic and Reconstructive Surgeon in practice for over 25-years in Indiana and California. He is a National Institution of Health (NIH) certified researcher and an affiliate of the Cell Surgical Network, the investigational research arm of the California Stem Cell Treatment Center. Dr. Chernoff has authored numerous scientific papers and medical laser textbook chapters. He has given over 700 lectures to physicians around the world on both surgical and non-surgical therapy. Dr. Chernoff offers all cosmetic treatments and is among the largest and experienced laser centers in the United States. He conducts investigational and clinical research with projects that include

regenerativemedicine, skin improvement, cellular medicine, health improvement, acne reduction, and scar improvement. Dr. Chernoff's laser research has been instrumental in developing and refining accepted laser techniques utilized by physicians worldwide. His ongoing research in the exciting field of cellular medicine is providing insight into expanded treatment indications. Dr. Chernoff has been featured on news programs to discuss the latest advancements in cosmetic surgery. He is the founder of the Survivors of Violence Foundation providing care and healing to victims suffering from painful physical injuries or disfigurements caused by injury, violence, or abuse.

**ABSTRACTS IN SPEAKER ORDER**

# Evaluating the Impact of Adenotonsillectomy for Pediatric Sleep-disordered Breathing on Parental Sleep

**Dr. Hannah Ernst**

*(Supervisor: Dr. Julie Strychowsky)*

**OBJECTIVE:** To evaluate the impact of adenotonsillectomy for pediatric sleep disordered breathing (SDB) on parental sleep quality, daytime sleepiness and child quality of life.

**METHODS:** Prospective cohort design. Pediatric patients aged 2-10 years with SDB, suspected OSA, requiring adenotonsillectomy were identified at a single tertiary-care pediatric otolaryngology hospital. A parent was randomly selected to participate. Parental daytime sleepiness and quality of sleep were evaluated pre- and post-operatively using the Epworth Sleepiness Scale (ESS) and Pittsburg Sleep Quality Index (PSQI), respectively. Child quality of life, in the context of suspected OSA, was evaluated by the OSA-18, pre- and post-operatively. Paired samples t-tests were conducted to analyze data.

**RESULTS:** Forty-seven patients with a mean (SD) age of 4.9 (2.2) years, participated. Mean (SD) parental age was 35.5 (4.6) years. Statistically significant decreases of 2.1 points between pre-operation and post-operation were observed for parental mean global ESS ( $p = .007$ ; 95% *CI* 0.6 to 3.6) and mean total PSQI ( $p = .001$ ; 95% *CI* 0.9 to 3.1) scores. A statistically significant improvement (41.6 points) was observed between pre-operation and post-operation on mean OSA-18 scores ( $p < .0001$ ; 95% *CI* 35.7 to 47.6).

**CONCLUSION:** Adenotonsillectomy performed in the pediatric population for SDB, with suspected OSA, can positively impact parental daytime sleepiness and sleep quality in addition to pediatric quality of life.



# Notes

# A Cost and Efficiency Analysis of Performing Myringotomy with Tube Insertion Procedures in the Minor Procedure Room Compared to the Operating Room

**Dr. Khrystyna Ioanidis**

*(Supervisor: Dr. Julie Strychowsky)*

**OBJECTIVES:** Minor pediatric surgeries performed in the minor procedure room (MPR) may be more time efficient and less costly compared to those performed in the operating room (OR).

**METHODS:** This was a retrospective study on cost and efficiency differences of bilateral myringotomy with tube insertions performed in the MPR versus the OR. Charts were reviewed from June 2015 to May 2017. Cost data was based on supply cost and case costing of medical personnel including nurses, aides, and anesthesia assistants.

**RESULTS:** Two hundred eighteen patients were included in the study. The median age was 2.7 years (range: 0.8–16.7), and there were no differences in gender between locations. One hundred twenty-three patients had surgery in the MPR (56.4%), and 95 had surgery in the OR (43.6%). The median length of time in the procedure room was 11 minutes shorter for patients who underwent surgery in the MPR (12.0 minutes, range: 3.0–33.0) compared to patients in the OR (23.0 minutes, range: 11.0–52.0;  $P < .0001$ ). Median hospital stay (2.0 hours vs. 4.3 hours;  $P < 0.0001$ ) and median patient turnover time (6.0 minutes vs. 14.0 minutes;  $P < .0001$ ) was shorter in the MPR compared to OR. The total overall cost of a myringotomy with tube insertion, including labor and supply cost, was \$189.41 in the MPR compared to \$468.56 in the OR, a difference of \$279.15 per case.

**CONCLUSIONS:** Bilateral myringotomy with tube insertions are more time and cost-efficient when performed in the MPR. This study supports the need for increased availability of MPR time for appropriate surgeries.

Notes

# Head and Neck Cancer Survivorship: Identifying Unmet Needs through a Multidisciplinary Working Group

**Dr. Gina Trinh**

*(Supervisor: Dr. Danielle MacNeil)*

**BACKGROUND:** With the rise of HPV+ oropharyngeal cancers and advances in treatments, there is an increased proportion of patients surviving head and neck (HN) cancers. Treatment modalities include surgery, radiation and chemotherapy with varying early/late treatment effects and long term sequelae. An emphasis on cancer survivorship is making an emergence; yet the needs of HN cancer survivors are not well documented.

**OBJECTIVE:** We aim to obtain the values and needs of HN cancer survivors through a working group with multiple stakeholders involved in HN cancer care. Topics of value identified within this working group will be transformed into concrete objectives with the goal of improving HN cancer survivorship.

**METHODS:** A planning committee with several multidisciplinary members was formed to identify an inclusive method to explore and determine HN cancer survivorship needs. Six HN cancer survivors with different cancers and treatments were invited for an interview to explore their experience and needs. A working group with stakeholders including the surgical team, radiation oncology team, primary care physicians, allied health including NPs, RNs, hospital coordinators, PT, OT, dieticians, dentistry was held to collectively identify areas of need within HN survivorship and to develop plans to address these needs.

**RESULTS:** The working group was presented with ~25 pre-identified symptoms associated with cancer survivorship. A group consensus within the three broad categories was deemed of most importance to HN survivors: 1) Physical symptoms 2) Psychosocial health 3) Post treatment 'maintenance' from hospital to community. Each attendant prioritized what was most important, which was collated into the top three projects to improve HN cancer survivorship: 1) patient and caregiver education post treatment (webinars for survivorship patients, live chats/mentorship, and education for patient and family) 2) Bodily health and fitness resources and 3) Caregiver supports (psychosocial, financial, 'care-kits' for home).

**CONCLUSIONS:** Several areas of HN cancer survivorship needs were identified through a working group with all stakeholders involved in HN cancer care. This provided concrete goals to improve the post treatment lives of the growing HN cancer survivors.

## Notes

# A Retrospective Study of the Natural History of Thyroid Nodules with Indeterminate Cytopathology

**Dr. Stefan Hamilton**

*(Supervisor: Dr. Danielle MacNeil & Dr. Michele Weir )*

**BACKGROUND:** Fine needle aspiration biopsy (FNAB) is a cornerstone of the diagnostic work-up for thyroid cancer. Biopsy results are typically classified as benign, malignant, or indeterminate. The latter category presents a diagnostic challenge, as the associated rate of malignancy ranges from 5-30% and the appropriate course of management is not always clear. Some nodules are simply observed, others are re-biopsied, and still others are triaged directly to surgery. Furthermore, malignancy can only be definitively assessed via surgical resection.

**OBJECTIVES:** The purpose of this study is to assess the rate of malignancy of indeterminate thyroid nodules diagnosed at London Health Sciences Centre (LHSC) from July 2011 to June 2012, and to assess the association of relevant clinical, cytopathologic and thyroid ultrasound (US) features with malignancy in this population. The ultimate goal is to optimize management of thyroid nodules with indeterminate biopsy results.

**METHODS:** A retrospective chart review was conducted of all patients diagnosed with indeterminate thyroid nodules at LHSC from July 2011 to June 2012. For each nodule, the following data were collected: patient demographics (age, sex), the specific FNAB cytopathologic diagnosis, US characteristics, and surgical histopathologic diagnosis. Wherever possible, US characteristics were amalgamated to generate a risk-stratified American Thyroid Association sonographic pattern. Each nodule was classified as benign or malignant based on surgical histopathology (nodules not triaged to surgery were considered benign if they remained stable on serial ultrasounds). Statistical analysis was then used to determine the overall malignancy rate of the indeterminate nodules. Chi-square tests and logistic regression were used to assess the association between the clinical/cytopathologic/sonographic variables and nodule malignancy.

**RESULTS:** There were 229 indeterminate thyroid nodules diagnosed at LHSC from July 2011 to June 2012. The rate of malignancy was 17.2%. Younger age ( $p = 0.020$ ), sonographic microcalcifications ( $p = 0.0030$ ), a high-risk ATA US pattern ( $p = 0.0001$ ), and FNAB cytopathologic diagnosis ( $p = 0.0010$ ) were all independently associated with nodule malignancy. Specifically, an FNAB diagnosis of "indeterminate for papillary carcinoma" (LHSC classification) and "atypia of undetermined significance" (Bethesda classification) were associated with malignancy.

**CONCLUSION:** Indeterminate thyroid nodules are notoriously challenging to manage. The results of this study highlight some of the factors which are most important for predicting malignancy in this population and can hopefully help guide clinical decision-making regarding diagnostic thyroid surgery. Further research is needed to elucidate other helpful markers of malignancy so that ultimately the "indeterminate" classification of thyroid cytopathology can be eliminated altogether.

# Notes

# Cystic Fibrosis and Chronic Rhinosinusitis in the Pediatric Population: Factors Influencing Disease Progression

**Dr. Kiersten Pianosi**

*(Supervisor: Dr. Murad Husein)*

**OBJECTIVES:** Chronic rhinosinusitis (CRS) occurs frequently in the CF population, with an incidence approaching 100%. Up to 48% of pediatric CF patients have associated nasal polyposis (NP), and the need for sinus surgery is significantly higher in those with severe polyposis. Despite this high prevalence, there is no consensus on CF-CRS management, or indicators that can be used for early identification in those patients most at risk.

**METHODS:** Retrospective chart review of CF patients referred to the pediatric otolaryngology clinic were assessed for genotype, pancreatic status, presence of NP, Sinonasal Outcome Test (SNOT-22) scores, sinus CT findings (Lund-MacKay scores), IgA levels, and need for surgery. Similar information was collected from a control cohort of CF patients not referred to an otolaryngologist. Data was analysed using independent samples t-tests, chi-square, and Fisher's exact test.

**RESULTS:** Data was collected on 52 patients from the CRS cohort group, and 33 patients from the control group. In the CRS cohort, 18 (34.6%) had one or more sinus surgeries. The mean baseline SNOT-22 score was 22.9 and the average Lund-MacKay score was 15.9. A significant correlation was found between SNOT-22 baseline scores and need for surgery ( $p = .02$ ); Lund-MacKay scores were significantly associated with need for surgery ( $p = .02$ ). IgA levels were not associated with nasal polyposis or need for surgery; however, subgroup analysis showed CF control patients had significantly lower mean IgA scores compared to the CRS group ( $p = .05$ ).

**CONCLUSIONS:** Patients with CF are at high risk of developing CRS. More than a third of CRS patients required surgery. Of interest, serum IgA levels are higher in those patients referred to an otolaryngologist. The exact reason and role for this is unclear, but potentially using IgA levels may allow earlier initiation of medical management for patients' sinonasal symptoms, and potentially decrease need for more intensive therapies.



## Notes

***DISTINGUISHED VISITING PROFESSOR***  
**Dr. Albert Merati**



**“Leadership: Is it about me or is it about you?”**

There are numerous pathways to leadership in medicine, and likely as many reasons why people pursue those roles. In this presentation "Leadership: is it about you or is it about me?" the speaker will review some of the key aspects of decision making and models for leadership in academic medicine. What are some of the great leadership challenges that face us in medicine in the near future? Is there a role for the pursuit of self-interest in leadership? Or is it all selfless? Why do we do what we do? Each attendee will be challenged to consider their own mission and objectives in considering this balance in pursuit of their careers and, perhaps more personally, how it impacts our lives outside of medicine - both positively and negatively.

# Notes

# Efficacy of Balloon Dilation of the Eustachian Tube

**Dr. Camilla Stepniak**

*(Supervisors: Dr. Leigh Sowerby & Dr. Brian Rotenberg)*

**BACKGROUND:** Eustachian tube dysfunction (ETD) is a ubiquitous condition affecting adults and children. Inadequate middle ear ventilation can lead to otologic diseases and complications including otitis media with effusion, retractions, perforations and cholesteatomas. This is typically treated with repeated ear tube placement, but there are risks associated with this and the benefit is not permanent. Within the last five years, there has been increasing research regarding a new surgical treatment (balloon dilation of the Eustachian tube (BDET) as a potential solution.

**OBJECTIVE:** To evaluate the subjective and objective outcomes of BDET in patients with chronic ETD.

**METHODS:** Retrospective review of 3-year results for the technique of transnasal BDET at a single tertiary centre (St. Joseph's Health Care). The validated seven-item Eustachian Tube Dysfunction Questionnaire (ETDQ-7) was the primary outcome measure. Secondary outcome measures included tympanometry, pure tone audiogram assessment, patient subjective satisfaction, and ability to auto-insufflate.

**RESULTS:** A total of 40 patients (66 ears) underwent BDET. The mean preoperative ETDQ-7 score was 28.45 ( $SD \pm 10.71$ ) and the post-operative score was 19.95 ( $SD \pm 9.03$ ). Comparison of the preoperative baseline and follow-up ETDQ-7 scores showed statistically significant difference ( $p < 0.001$ ). No device- or procedure-related serious adverse events were reported for those who underwent BDET.

**CONCLUSIONS:** Early results suggest BDET is a safe treatment for chronic ETD that may result in subjective patient improvements and avoid the need for repeated ear tube placement.

## Notes

# **VO**ice Analysis with Iphones: A Low **C**ost **E**xperimental **S**olution (**VOICES**)

**Dr. Benjamin van der Woerd**

*(Supervisors: Dr. Kevin Fung, Dr. Philip Doyle, Dr. Vijay Parsa)*

**BACKGROUND:** Voice is our way to communicate and express ourselves. It is the result of air passing through the vocal cords and creating a vibratory wave. Voice disorders are prevalent, affecting nearly 30% of the general population throughout their lifetime. Part of the evaluation of voice disorders includes acoustic voice analysis, a time and resource intensive process. This project seeks to develop and validate the results of a smartphone based acoustic voice analysis application.

**OBJECTIVE:** To develop and validate an acoustic voice analysis smartphone application.

**METHODS:** We used pre-recorded samples as well as prospectively collected voice recordings to test the application. The pre-recorded samples included sustained vowel and rainbow sentence samples. These stimuli were presented in four settings and analyzed with a repeated measures ANOVA. Prospectively recorded samples were collected in three settings, Blue Yeti microphone in a soundproof booth, internal iPhone microphone in a soundproof booth, and internal iPhone microphone in a quiet room. The measures were analyzed with Praat and the iPhone application

**RESULTS:** The vowels were both pathologic (n=10) and normal (n=10) voices. The sentences ranged from normal to severely disordered with an equal number of male (n=12) and female (n=12) speakers. 30 recorded samples in the three settings were collected, the average age was 45.5 years (23-81). Analysis of vowels indicated that the fundamental frequency and harmonic-to-noise ratio (HNR) were statistically significantly affected by the microphone choice and HNR was affected by the location of recording. Analysis of sentences revealed a statistically significant impact of recording setting on HNR and cepstral peak prominence (CPP). CPP was also impacted by the microphone of choice.

**CONCLUSIONS:** Many measures of acoustic voice analysis are statistically unimpacted by microphone of choice or location of recording. The measures that were found to be statistically significantly different were only mildly different and are unlikely to have a great clinical significance.

# Notes

# The Prevalence of HPV-Associated Head and Neck Carcinomas and its Implications: A Literature Review and Systematic Analysis

**Dr. Laura Kim**

*(Supervisor: Dr. Danielle MacNeil)*

**INTRODUCTION:** Certain human papillomaviruses (HPVs) are well known risk factors for certain subsets of head and neck cancers; however, the prevalence and its implications in the different anatomical subsites remains less clear.

**OBJECTIVE:** The objective of this study was to systematically review the English literature to study the prevalence of HPV by the anatomic subsites in carcinomas of the Head and Neck and to review its implications in terms of disease free and overall survival.

**METHODS:** A search was completed through MEDLINE/EMBASE/PubMed for a total of 2230 studies. After a review by 3 independent authors, 45 studies met our inclusion criteria for the meta-analysis. HPV detection rates, anatomical subsite and size, disease-free and overall survival, and other patient characteristics were recorded from each study.

**RESULTS:** There was a great variation in the studies in terms of sample selection, and method of HPV detection, with most of it being of limited quality. From the 45 studies meeting criteria for the meta-analysis, the overall prevalence of HPV in any Head and Neck subsite is approximately 31%. HPV was most prevalent in cancers of the oropharynx (39%) compared to cancers of the oral cavity (28%) and larynx (23%). There was also a trend found towards an improved overall survival in patients with cancers of the non-oropharyngeal Head and Neck region, including oral cavity, hypopharynx, and larynx.

**CONCLUSIONS:** There has been a rise in HPV associated head and neck carcinomas, and as its implications in carcinomas of the oropharynx are now well established. A definitive association between HPV and non-oropharyngeal Head and Neck carcinomas is less clear at the current time; however, it may be of importance to consider of HPV status in clinical studies and in clinical decision making.



## Notes

# Gender Disparity in Head and Neck Cancer Driver Genes: An Analysis of the TCGA Dataset

**Dr. Neil Mundi**

(Supervisor: Dr. Anthony Nichols)

**OBJECTIVES:** Survival in head and neck squamous cell carcinoma (HNSCC) has been associated with patient sex. It is unclear if this disparity in outcome is rooted in tumour biology. We analyzed the TCGA HNSCC cohort to uncover disparities in the somatic single nucleotide variation (SNV) profile and CNA's between males and females. Critically, we stratified our results by tumor HPV status in order to control for this significant confounder.

**METHODS:** Single nucleotide variation (SNV), mRNA expression and copy number alterations (CNA) differences between males and females were compared within HPV-positive (n=67) and negative (n=431) TCGA HNSCC cohorts. Overall and disease-free survival outcomes were compared in males and females in both HPV-positive and HPV-negative subsets of patients.

**RESULTS:** Females were found to have poorer overall survival than males ( $p=0.048$ ). In both HPV-positive and negative cohorts, over 500 mRNA's were found to have significant differences in expression between males and females ( $p<0.05$ ). In females, the most frequently mutated genes included *CSMD3*, *PIK3CA* and *SYMPK* in HPV-positive disease. In males, the most frequently mutated genes included *TTN*, *PIK3CA*, *MUC16* and *FRG1B*. In HPV-negative disease, the most frequently mutated genes were *TP53*, *TTN*, *FAT1* and *CDKN2A* for both men and women. Within this cohort, *BRWD3* mutations were found to have occurred in significantly more females compared to males ( $p=0.018$ ). Further, *BRWD3* mutant tumors were found to have worse overall survival compared to wild type tumors on univariate analysis ( $p=0.08$  in all patients,  $p=0.06$  in HPV-negative patients and  $p=0.6$  in HPV-positive patients). On multivariate analysis, *BRWD3* mutations were not found to significantly confer worse overall survival, although the results did approach significance ( $p=0.09$ ).

**CONCLUSIONS:** Our investigation characterized the mutational landscape of HNSCC across sexes in both HPV-positive and negative cohorts. Males were found to have a significant survival advantage, likely due to there being a higher proportion of HPV-positive patients in this sex category. Importantly, significant differences were found between males and females in SNV, mRNA expression and CNA's. Mutations in a particular gene, *BRWD3*, were found to be present more often in females than males and were associated with a trend towards poorer outcomes. Further studies are required to elucidate the drivers of sex differences in cancer risk, incidence, response to treatment and outcome with validation of the findings outlined herein.

## Notes

# Improving Timeliness in Discharge Summary Distribution: A Quality Improvement Initiative in Otolaryngology Head and Neck Surgery

**Dr. Peng You**

*(Supervisor: Dr. Julie Strychowsky)*

**BACKGROUND:** Timely distribution of discharge summaries to primary care providers optimizes patients' transitions of care. A local institutional target was set to distribute at least 50% of discharge summaries within 48 hours of discharge. This goal has proved to be elusive, especially among surgical departments. To address this, a quality improvement (QI) initiative was implemented to improve discharge summary distribution within the department of Otolaryngology-Head and Neck Surgery.

**METHODS:** The impact of education, auto-authentication, and individual scorecards were studied using the Model for Improvement framework from July 2018 to January 2019. Process measures were collected for time intervals between patient discharge to dictation, transcription, and authentication.

**RESULTS:** Stakeholder education and auto-authentication were well-received. Following education, the average dictation-to-distribution time decreased from 200 hours at baseline to 98 hours. The discharge summaries distributed within 48 hours improved from 19.7% at baseline to 29.8%. Following the incorporation of auto-authentication, transcription to authentication time decreased to 8 hours as compared to 99 hours in the previous fiscal year. During the latest fiscal quarter, 41.6% of discharge summaries within Otolaryngology were distributed within 48 hours. When the auto-authentication code was used, 62% of discharge summaries were distributed within 48 hours. The LHSC wide distribution rate during the same period was 34.0%.

**CONCLUSIONS:** Timely discharge summary distribution can be achieved through QI interventions. Similar strategies can be adopted in other surgical subspecialties and LHSC at large.

Notes

***DISTINGUISHED GUEST ALUMNUS***  
**Dr. Gregory Chernoff**



**“The Future of Cellular Medicine,  
Regenerative/Stem Cell Therapy in Oncology,  
Functional and Cosmetic Conditions”**

The fields of Cellular Medicine, Regenerative and Stem Cell Therapies continue to evolve. These exciting microcosms of medicine are focused on recapitulating the conditions of our youth, in order to restore, rather than repair morphological and physiological aberrancies as they appear. As health care providers, we seek the ability to offer patients the hope of regeneration and prevention, in order to afford the restoration of a younger version of themselves, rather than simply repairing injuries or attempting to cure cancers or illness. A thirty year summary of research into these thought provoking therapies for cancer, degenerative diseases, and cosmetic applications will be reviewed. Hold on to your seats! It might create vertigo!

## 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



CONTINUING PROFESSIONAL DEVELOPMENT  
PLANNING COMMITTEE MEMBERS

Dr. Lorne Parnes (Director)

Dr. Josee Paradis

Dr. Julie Strychowsky

Dr. Kathryn Roth

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