EASTERN SECTION PROGRAM
JANUARY 20-22, 2006
TORONTO HILTON, TORONTO, ONTARIO

FRIDAY, JANUARY 20, 2006

12:00 - 5:00 cancelled
EASTERN ASPO MEETING - CARMICHAEL/JACKSON

4:00 - 8:00 pm **Speaker Ready Room - Casson**

5:00 - 8:00 pm **Registration - Foyer**

6:00 - 7:30 pm **Exhibit Hall Open - Toronto II-III**

6:00 - 7:30 pm **WELCOME RECEPTION - TORONTO II-III**

SATURDAY, JANUARY 21, 2006

7:00- 5:00 **Registration - Foyer**

7:00- 5:00 **Speaker Ready Room - Casson**

7:00- 7:50 **BUSINESS MEETING (MEMBERS ONLY) - CARMICHAEL/JACKSON**

7:00- 4:00 **Exhibit Hall Open - Toronto II & III**

7:15- 8:00 **Continental Breakfast with Exhibitors - Toronto II & III**

8:00- 11:00 **Spouse Hospitality - Tom Thompson Room**

8:00- 5:00 **SCIENTIFIC SESSIONS - TORONTO I**

8:00 **Welcome and Introduction of President, Stanley M. Shapshay, MD*, New York, NY**
Patrick J. Gullane, MD*, Toronto, ON

8:02 **Presidential Address, Stanley M. Shapshay, MD*, New York, NY**

8:12 **Introduction of Vice Presidential Citation Awardees**
John J. Conley, MD (posthumous)
Sebastian Arena, MD (posthumous)
Dr. A. W. Peter van Nostrand, Toronto, ON
Patrick J. Gullane, MD*, Toronto, ON

8:16 **Introduction of Guest of Honor**
F. Griffith Pearson, MD, Professor Emeritus of Thoracic Surgery,
University of Toronto, Toronto, ON
Patrick J. Gullane, MD*, Toronto, ON

8:20 **Guest of Honor Lecture**
Thoracic Surgery/Otolaryngology-Head and Neck Surgery: The Mutual Benefits
F. Griffith Pearson, MD, Toronto, ON

8:28 **Introduction of Keynote Address Speaker, T. Douglas Bradley, MD, Toronto, ON**
Patrick J. Gullane, MD*, Toronto, ON

8:30 **Keynote Address: Obstructive Sleep Apnea and Cardiovascular Disease: A Two-Way Street**
T. Douglas Bradley, MD, Toronto, ON

MODERATORS: BERT W. O'MALLEY, JR., MD*, PHILADELPHIA, PA
LANNY G. CLOSE, MD*, NEW YORK, NY

9:00 ***Resident Research Award - Second Prize***
DNA Damage Repair Genes Implicated in Oral Squamous Cell Carcinoma (OSCC) by Genomic Profiling Using Array Based Comparative Genomic Hybridization (aCGH)

Anthony Sparano, MD, Philadelphia, PA (*Resident Travel Award*)
Kelly M. Quesnelle, BS, Philadelphia, PA
Madhu S. Kumar, BS, Philadelphia, PA
Yan Wang, MD, Philadelphia, PA
Marcia S. Brose, MD PhD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize commonly altered chromosomal regions and some commonly altered genes, along with implicated pathways involved in tumorigenesis and progression of OSCC.

OBJECTIVES: Array based comparative genomic hybridization (aCGH) was used to develop a genome wide molecular profile of oral squamous cell carcinoma (OSCC). Copy number alterations (CNAs) characterized as amplifications or deletions were identified by chromosomal region and finely mapped to specific genes. Four previously designated regions of CNA associated with head and neck squamous cell carcinoma (HNSCC) were narrowed to applicable candidate gene lists. The most commonly altered genes were assessed as potential correlates of tumor behavior. **STUDY DESIGN:** Tumor tissue DNA was prospectively isolated for aCGH from 22 fresh frozen OSCC specimens. **METHODS:** Genome wide CNAs were characterized at 1 Mb resolution to identify frequently altered genes which were correlated with clinical (T-stage, lymph node metastasis) and histopathologic (angiolymphatic invasion, perineural invasion) tumor data. **RESULTS:** Regions of the genome most frequently amplified (>35%) involved chromosomes 2, 3, 5, 7, 8, 9, 11, 20; while regions most frequently deleted (>25%) involved chromosomes 3, 8, and 13. The most frequently altered genes were identified (11 amplified, 9 deleted), and some gene alterations, including that of BRCA2 and FANCD2, correlated significantly with T-stage, lymph node metastasis, angiolymphatic invasion, or perineural invasion. Minimal regions of CNA by aCGH narrowed 4 broad regions of CNA associated with HNSCC to a set of 4 smaller corresponding regions yielding focused lists of associated candidate genes. **CONCLUSIONS:** Genome wide aCGH can be used to identify genetic alterations in OSCC fresh frozen tumor tissue specimens at 1 Mb resolution. These data demonstrate potential gene candidates involved in the tumorigenesis and progression of OSCC.

9:08 Cystic Lymph Node Metastasis in Patients With Head and Neck Cancer
David Goldenberg, MD, Baltimore, MD
Zubair Khan, MD, Baltimore, MD
James Sciubba, DMD PhD, Baltimore, MD
Charles W. Cummings, MD*, Baltimore, MD
Wayne M. Koch, MD*, Baltimore, MD

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the clinical implications of a cystic neck mass in the adult patient.

OBJECTIVES: It is well known that squamous cell carcinoma of the head and neck (HNSC) commonly spreads to deep regional cervical nodes. In the majority of cases, these metastases present as solid masses. However it has been observed that certain subsites of head and neck cancer tend to produce metastases which are morphologically cystic. These sites often include primary tumors from Waldeyer's ring. Both the mechanism of cyst formation and a possible distinction in clinical behavior between tumors associated with solid and cystic nodes has not been elucidated. The purpose of this study is to investigate the incidence of cystic lymph node metastasis (CLNM) in head and neck cancer in our institution and to further elucidate the clinical relevance of this finding. **STUDY DESIGN:** A retrospective chart review of all neck dissections with clinically suspicious lymph nodes was performed in our institution between the years 2002 and 2004. **METHODS:** A retrospective chart review of all neck dissections with clinically suspicious lymph nodes was performed in our institution between the years 2002 and 2004. Patients with radiographic or pathological evidence of CLNM were identified. Demographic information, risk factors, diagnostic fine needle aspiration results, extra nodal extension, number of involved nodes, primary tumor stage, and radiographic or pathologic evidence of cystic metastasis were documented. We evaluated the presence of CLNM as related to the various HNSC subsites. **RESULTS:** 124 patients who underwent neck dissection for clinically evident lymph node metastasis were identified. A total of 17 patients were found to harbor CLNM as confirmed by radiological or pathological examination. Initial FNA results were positive for carcinoma in only 47% of the patients with cystic lymph nodes. 94% of patients with CLNM had tumors arising from the tonsil or base of tongue ($p<0.001$). We found CLNM to be present in 13.7% of HNSC with neck metastasis considering all primary sites, and 20% of patients with tongue base and tonsil primaries. **CONCLUSIONS:** We conclude that CLNM from HNSC indicates the presence of a base of tongue or tonsil primary tumor. We suggest that lateral cystic neck mass in an adult be presumed to harbor a cancer until proven otherwise and be investigated and treated as such. The possible distinction in risk factor and clinical behavior between tumors associated with solid and cystic nodes requires further investigation.

9:16 Occult Nodal Disease in Laryngeal Preservation Failures Undergoing Surgical Salvage
Richard V. Smith, MD, Bronx, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand when to use neck dissection in the surgical management of the N0 neck in organ preservation failure for larynx cancer.

OBJECTIVES: To define the incidence and significance of occult neck disease in recurrent laryngeal cancer following failed organ preservation therapy. **STUDY DESIGN:** A retrospective chart review. **METHODS:** A retrospective review of 26 patients undergoing salvage laryngectomy between 2000 and 2004 with clinically negative necks. Patients were assessed for initial, clinical recurrent, and pathologic recurrent TNM stage, surgical intervention, demographics and survival. **RESULTS:** There were 20 men and 6 women, with a mean age at initial diagnosis of 62 years (37-88) and at salvage surgery of 64 years (37-90). The initial pretreatment stage was Tis—1, T1—7, T2—6, T3—4, and T4—5. Eleven patients received chemotherapy and radiotherapy, 14 radiotherapy, and 1 with chemotherapy. The clinical stage at recurrence was T2—9, T3—11, T4—6, and the pathologic stage following salvage surgery was T2—5, T3—8, and T4—13. Eight of the 26 (31%) clinically node negative patients were pathologically positive, with 4 pN1 and 4 pN2b. Sixteen patients (62%) were without evidence of disease (NED) at their most recent follow-up (mean 16 months (1-57)), 4 (15%) were alive with disease (AWD), and 6 (23%) were dead of their disease (DOD). When relating this to the pN status, the following patients were pN+: NED 3/16 (19%), AWD 2/4 (50%), DOD 3/6 (50%). **CONCLUSIONS:** The incidence of pathologically positive lymph nodes in clinically negative patients with recurrent laryngeal carcinoma following nonsurgical therapy is sufficiently high to warrant standard selective neck dissection.

9:24 Discussion with Touch Pad Questions

9:32 Late Onset Medullary Carcinoma of the Thyroid: Need for Genetic Testing and Prophylactic in Adults
Ashok R. Shaha, MD*, New York, NY
Ronald A. Ghossein, MD, New York, NY
R. Michael Tuttle, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand genetic mutations in medullary thyroid carcinoma and the role of prophylactic thyroidectomy in adults with a RET mutation.

OBJECTIVES: Sporadic late onset medullary thyroid carcinoma is quite rare. The role of genetic testing in these individuals along with screening of other family members remains unclear even though genetic testing is very popular for children of those with RET mutations undergoing routine prophylactic thyroidectomy. **STUDY DESIGN:** Patients usually present with a thyroid mass or neck node metastasis and high calcitonin levels. Preoperative fine needle aspiration biopsy may suggest medullary carcinoma of the thyroid. **METHODS:** Recently, a 69 year old female presented with a thyroid nodule. After undergoing a total thyroidectomy and modified neck dissec-

tion, she was noted to have medullary thyroid carcinoma with one metastatic lymph node in the neck. The patient's RET study revealed mutation of V804M. This is an uncommon mutation suggestive of medullary thyroid carcinoma. The patient had four children, three of whom were adults and were also noted to have the same RET mutation. **Results:** The three children were offered prophylactic thyroidectomy at ages 45, 47 and 44. The patient's son had extensive C-cell hyperplasia in both lobes of the thyroid. The other two children had benign pathology with no evidence of C-cell hyperplasia. **Conclusions:** Even though there is no consensus of opinion about the need for prophylactic total thyroidectomy in adults with a RET mutation, an 804 mutation is a rare predictor of medullary thyroid carcinoma. One individual had extensive C-cell hyperplasia, suggesting future development of medullary thyroid carcinoma. Prophylactic thyroidectomy should be recommended for patients with an 804 RET mutation and family history of medullary thyroid carcinoma.

9:40 A Pilot Study of Mucosal Genetic Differences in Early Smokers and Nonsmokers
Richard V. Smith, MD, Bronx, NY
Nicolas Schlecht, PhD, Bronx, NY
Thomas Belbin, PhD, Bronx, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the utility of global gene expression to identify differences between smokers and nonsmokers.

Objectives: To determine if there are gene expression differences in smokers and nonsmokers. **Study Design:** Prospective evaluation of buccal mucosa gene expression patterns. **Methods:** Human buccal mucosal cells were sampled from smokers and nonsmokers using a noninvasive brush technique. Validation was performed, and purified RNA was assayed using cDNA microarrays containing 27,323 cDNA clones. **Results:** Ten samples were used in this pilot analysis, 5 from smokers and 5 from nonsmokers. Smoking among the study group ranged from 10-60 pack years. RNA purified from buccal mucosal brushing demonstrated a high degree of similarity in gene expression profiles among independent samples. Unsupervised hierarchical clustering of gene expression profiles using a Spearmann rank correlation demonstrated that smokers could be segregated from nonsmokers based solely on the patterns of gene expression. Through the application of supervised clustering techniques, we identified 924 genes whose expression differs significantly between samples from smokers and nonsmokers (t-test, $p<0.01$). Genes which were underexpressed in the smokers, compared to nonsmokers, and were further underexpressed in HNSCC included occludin, a major structure determining transmembrane protein located at tight cellular junctions. There were also 2 genes in this limited sampling which were continuously overexpressed, regulator of G-protein signaling 1 (RGS1) and kinetochore associated 1 (KNTC1). **Conclusions:** Although the sample size was small in this preliminary data set, these genes were statistically significantly different between the smokers and nonsmokers. Many of these represent genes of possible interest as early molecular markers for head and neck carcinogenesis.

9:48 A Comparative Study of 200 FNA Biopsies Performed by Clinicians and Cytopathologists
Maoxin Wu, MD PhD, New York, NY
Leslie A. Nurse, MD, New York, NY (*Presenter*)
Songyang Yuan, MD PhD, New York, NY
Arnold H. Szporn, MD, New York, NY
David Zhang, MD PhD, New York, NY
David Burstein, MD, New York, NY
Eric M. Genden, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to compare the diagnostic yield of FNA biopsies performed by pathologists versus those performed by clinicians. Discuss the role of fine needle aspiration in the management of head and neck masses.

Objectives: Fine needle aspiration (FNA) biopsy is a useful tool in the diagnosis and management of suspicious masses. Most FNA biopsies of palpable masses can be performed by either clinicians or cytopathologists; however it is unclear if there is a difference in the diagnostic yield of the procedure based on who performs the FNA. **Study Design:** Retrospective study. **Methods:** We reviewed the FNA biopsy results of 200 patients presenting with head and neck masses to a tertiary care center between 2003 to 2004. 100 FNA biopsies were performed by clinicians, 100 performed by cytopathologists. 71 patients underwent subsequent surgery. Results of the FNA biopsies performed by the clinicians and the cytopathologists were compared based on the percentages of FNAs that were diagnostic, suspicious/suggestive, and nondiagnostic. Additionally, the pathology results of the 71 surgical biopsies or resections were compared to the preoperative FNA results. **Results:** Of the 100 FNA biopsies performed by cytopathologists, 83% were diagnostic, 10% were suspicious/suggestive and 7% were nondiagnostic. Of the 100 FNA biopsies performed by clinicians, 24% were diagnostic, 43% were suspicious/suggestive, and 33% were nondiagnostic. Cytopathologists achieved significantly better ($P<.0001$, two tailed T-test) results. Of the 71 cases with surgical follow-up (50 by cytopathologists and 21 by clinicians), 94% of cases performed by cytopathologists and 67% of those performed by clinicians show agreements with final surgical pathology results. Overall, cytopathologists achieved significantly better diagnostic accuracy ($P<.0002$, two tailed T-test). **Conclusions:** FNA provides valuable information in the work-up of suspicious head and neck masses; cytopathologists may achieve significantly better results.

9:56 Discussion with Touch Pad Questions

10:04 Break/Poster Viewing/Visit with Exhibitors - Toronto II & III & Foyer

Moderators: Ashok R. Shaha, MD*, New York, NY
Ian J. Witterick, MD, Toronto, ON

10:32 Endoscopic Cervical Sentinel Node Biopsy in a Porcine Model
David M. Cognetti, MD, Philadelphia, PA (*Resident Travel Award*)
Kelly M. Malloy, MD, Philadelphia, PA
Bernadette M. Wildemore, MD, Philadelphia, PA
Mary F. Cunnane, MD, Philadelphia, PA
Edmund A. Pribitkin, MD*, Philadelphia, PA
David Rosen, MD, Phildelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the potential advantages and limitations of an endoscopic approach to sentinel node biopsy in the neck.

Objectives: To determine the feasibility of endoscopic sentinel node biopsy in an animal model. **Study Design:** Prospective, nonrandomized experimental study in pigs. **Methods:** The posterior lateral tongues of four Yorkshire pigs were injected with carbon dye (India ink). Three trocar sites per side were used to establish an endoscopic pocket. The cavity was created using blunt dissection, and a harmonic scalpel was used to assist with lymph node dissection. The pocket was maintained with low pressure carbon dioxide insufflation. Lymph nodes were identified and retrieved endoscopically, followed by an open dissection to recover any remaining nodes. All specimens were analyzed by a pathologist for staining, size, and structural integrity. **Results:** Seven unilateral procedures were performed. In every case, lymph nodes were endoscopically identified and removed without any major complications. There was no significant bleeding and conversion to open surgery was never necessary. The average length of the endoscopic portion of the procedure was 53 minutes (range 38—80 minutes.) Some of the necks lacked grossly stained nodes in both the endoscopic and open specimens, indicating a limitation of the carbon dye tracer. In the necks where grossly stained nodes were not identified during endoscopic dis-

section, nodes located in the region comparable to human levels II and III were removed instead. The structural integrity of all lymph nodes was intact upon histological evaluation. **Conclusions:** Endoscopic cervical sentinel lymph node biopsy in pigs is feasible. Further investigation and tracer modification must be undertaken prior to the use of this technique in human subjects.

10:40 Head and Neck Squamous Cell Carcinoma Without Tobacco or Alcohol Consumption: Analysis of Comorbidities and Outcomes
Miriam O'Leary, MD, Boston, MA (*Resident Travel Award*)
Cyrus Wong, BS, Boston, MA
Anand K. Devaiah, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify trends in disease presentation and progression in head and neck squamous cell carcinoma patients who do not use tobacco or alcohol products.

Objectives: The objectives of this study were to analyze patients with head and neck squamous cell carcinoma (HNSCC), that do not use tobacco or alcohol, for common comorbid conditions and outcomes. **Study Design:** Retrospective chart review. **Methods:** HNSCC patients presented at a tertiary care institution's multidisciplinary tumor board between 2001-2004 with HNSCC. Patients for review were limited to primary treatment at the institution with cancer of the oral cavity, oropharynx, larynx, or hypopharynx. **Results:** Of 101 patients who met criteria for review, 17 had no significant tobacco or alcohol history. Distribution of T1, T2, T3, and T4 tumors were 10, 2, 1, and 4 patients respectively. Outcomes for this patient subset revealed no evidence of disease (NED) in 7 with average cancer free interval (ACFI) of 16.6 mos, 5 alive with disease (AWD) with ACFI of 8.2 mos, 2 perished from disease (PFD) (9 mos average survival postdiagnosis), and 3 were lost to follow-up. Of patients who maintained follow-up, 7 patients (50%) were NED, and 7 patients (50%) were either AWD or PFD. Comorbid factors included diabetes (3 patients, 17.6%), poor dentition with chronic irritation (3 patients, 17.6%), gastroesophageal reflux (2 patients, 11.7%), HIV (1 patient, 5.9%), and chronic secondhand smoke exposure (1 patient, 5.9%). **Conclusions:** There was a relatively large percentage of patients in this study who had no significant tobacco nor alcohol exposure. Despite the smaller initial T-stage, these patients had worse prognosis. Larger multicenter studies should be considered to further evaluate outcomes of this epidemiological subset.

10:48 Developing Competency in Managing End of Life Care Issues for Otolaryngology Patients
John R. Stram, MD, Boston, MA
Matthew S. Russell, Boston, MA (*Presenter*)

Educational Objective: At the conclusion of this presentation, the participants should be able to manage the symptoms encountered in patients at the end of life on the otolaryngology service, educate the patients' families on end of life issues, and do so in a culturally sensitive manner.

Objectives: To present the management of patients in end of life crisis from otolaryngic disease. End of life issues are discussed from perspectives including pharmacologic, psychologic, religious, and cultural variations. **Study Design:** Summary of senior author's formal training study in geriatrics, review of relevant literature, personal experiences, and case presentations. **Methods:** The senior author, who recently completed a special study program supported by the Reynolds Foundation leading to a certificate of competency in geriatric medicine, imparts a portion of his knowledge in this presentation. Patient management advice is based on published literature, personal experience, and expert interviews. **Results:** Terminal patients with an otolaryngic disorder can suffer from hunger, pain, dyspnea, nausea, vomiting, delirium, and dementia. Appropriate management can help patients and families feel less distress through the terminal events usually due to otolaryngic malignancy. Education for family members on prognostic indicators and means of alleviating guilt are discussed along with a summary of practical advice from hospital chaplains on orienting physicians to cultural issues in end of life management. **Conclusions:** Caring for a patient at the end of life is one of the most intimate interactions physicians can have, but little formal training in end of life care is included in subspecialty training. Failure to understand the pharmacologic armamentarium necessary to treat these patients is a source of anxiety to many physicians. To accommodate the patient we must understand proper prognostication of time of death, management of symptoms, and practices specific to the patient's culture. End of life issues are especially important for the child with terminal illness. This too needs special attention.

11:00 Discussion with Touch Pad Questions

11:08 PANEL: BUTTONHOLE THE HEAD AND NECK EXPERTS
Moderator: Ashok R. Shaha, MD*, New York, NY
Panelists: Jeremy L. Freeman, MD, Toronto, ON
Jonas T. Johnson, MD*, Pittsburgh, PA
Bert W. O'Malley, Jr., MD*, Philadelphia, PA
Gady Har-El, MD*, Brooklyn, NY

12:00 Lunch - Toronto II & III, Foyer & Carmichael/Jackson

1:15 PANEL: TINY HUMANS/MASSIVELY COMPLEX PROBLEMS: A GLIMPSE INTO TERTIARY-QUATERNARY PEDIATRIC OTOLARYNGOLOGY
Moderator: Blake C. Papsin, MD*, Toronto, ON
Panelists: Joseph Haddad, Jr., MD*, New York, NY
Christopher J. Hartnick, MD*, Boston, MA
Margaret A. Kenna, MD*, Boston, MA
Charles M. Myer, III, MD*, Cincinnati, OH

Moderators: Blake C. Papsin, MD*, Toronto, ON
Joseph Haddad, Jr., MD*, New York, NY

2:10 ***Resident Research Award - First Prize***
Evoked Compound Action Potentials (ECAP) of the Auditory Nerve in Pediatric Cochlear Implant Users With and Without GJB2-Related Hearing Loss
Evan J. Propst, MD, Toronto, ON Canada (*Resident Travel Award*)
Karen A. Gordon, MA PhD, Toronto, ON Canada
Tracy L. Stockley, PhD, Toronto, ON Canada
Robert V. Harrison, PhD DSc, Toronto, ON Canada
Blake C. Papsin, MD MSc FRCS*C, Toronto, ON Canada

Educational Objective: At the conclusion of this presentation, the participants should appreciate the unique qualities of the auditory nerve in individuals with GJB2 related hearing loss and the benefits this allows when stimulating the nerve with a cochlear implant.

Objectives: Previous studies inferring evaluation of the auditory system in GJB2 related hearing loss using speech and language outcome measures have yielded inconsistent findings. The purpose of this study was to directly evaluate the integrity of the auditory nerve in pediatric cochlear implant users with and without GJB2 related

hearing loss by measuring evoked compound action potentials (ECAP) using the Neural Response Telemetry (NRT) system by Cochlear Corporation. **Study Design:** Prospective, blinded, randomized trial. **Methods:** Blood from 286 cochlear implant users was analyzed for mutations in GJB2 by direct sequencing. ECAPs from 25 congenitally deaf individuals with biallelic GJB2 mutations and 38 congenitally deaf individuals without GJB2 mutations were evaluated for the following: threshold, latency, amplitude, slope of amplitude growth and tNRT. **Results:** Subjects in the GJB2 and non-GJB2 groups were similar with respect to sex, age at implantation, duration of auditory deprivation and aided hearing, ear implanted, implant type and depth of insertion. Unaided preimplant audiograms demonstrated significantly worse hearing thresholds for the GJB2 group at 250 Hz, 500 Hz and 1000 Hz. The GJB2 and non-GJB2 groups both had large ECAP amplitudes at the apically situated electrode 20 which encodes low frequency stimuli. Individuals in the GJB2 group had significantly larger ECAP amplitudes at the basally situated electrode 3 which encodes high frequency stimuli. The effect of electrode on amplitude was different across groups. **Conclusions:** Stimulation of the auditory nerve by cochlear implants is more robust in GJB2 related hearing loss as compared with non-GJB2 related hearing loss.

2:18 Passive Smoke Exposure as a Risk Factor for Airway Complications During Outpatient Pediatric Procedures
Dwight T. Jones, MD, Boston, MA
Neil Bhattacharyya, MD, Boston, MA (*Presenter*)

Educational Objective: At the conclusion of this presentation, the participants should be able to quantify and understand the risks of passive smoke exposure as they relate to outpatient pediatric mask anesthetic procedures.

Objectives: Determine if passive smoke exposure increases airway complications during outpatient mask anesthesia procedures in children. **Study Design:** Prospective double blind cohort study. **Methods:** A prospective cohort of children aged 1-18 years scheduled to undergo outpatient surgical procedures under mask anesthesia was studied with the American Thoracic Society children's questionnaire on environmental and respiratory factors. The cohort was segregated into those patients with and without secondhand (passive) smoke exposure based on an embedded survey question. Double blinded outcomes with respect to airway secretions, coughing, breath holding, laryngospasm, bronchospasm and airway obstruction were recorded both at the time of induction and in the recovery room. Statistical comparisons assessing the likelihood of these airway complications were conducted between the passive smoke exposure and non-exposure groups. **Results:** 405 children completed survey and outcomes analysis. One hundred sixty-eight (41.5%) suffered from secondhand smoke exposure versus 235 (58.5%) without exposure. Significant differences in other airway risk factors (i.e., asthma, parental witnessed apneas) were not present between groups excepting environmental allergies (more prevalent in the smoke exposure group, p=0.024). The incidence of airway complications during anesthesia or postanesthetic recovery was statistically significantly higher for all outcomes measures for passive smoke exposed children (all p<=0.005), with the exception of breath holding (p=0.086). Induction laryngospasm and induction airway obstruction were 4.9 (95% confidence interval, 2.5-9.7) and 2.8 (1.7-4.2) times more likely with passive smoke exposure, respectively. **Conclusions:** Passive smoke exposure significantly increases the risk of anesthesia related airway complications during outpatient pediatric procedures. Families should be queried about secondhand smoke during evaluation for outpatient procedures.

2:26 Comparison of Oral Versus Rectal Administration of Acetaminophen With Codeine in Postoperative Pediatric Adenotonsillectomy Patients
Vicki L. Owczarzak, MD, New York, NY (*Resident Travel Award*)
Joseph Haddad, MD*, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to compare oral versus rectal acetaminophen with codeine for management of postoperative pain after adenotonsillectomy and demonstrate that suppositories are easier to administer, require less frequent dosing and have similar adverse effects when compared to oral pain medication. Participants should also feel more comfortable using suppositories as pain control after a T&A.

Objectives: To compare oral versus rectal acetaminophen with codeine for management of postoperative pain following adenotonsillectomy (T&A), evaluating ease of administration, adequate dosing and medication tolerance. **Study Design:** Prospective, randomized trial. **Methods:** Seventy-five children ages 1 through 5 scheduled to undergo T&A for recurrent tonsillitis or obstruction were randomly assigned preop to begin oral or rectal pain medication upon discharge from the hospital. The operation was performed in a standard fashion using cold knife and electrocautery. Parents kept a diary for 10 days postoperatively recording pain control, doses given, diet tolerance, and adverse effects. A questionnaire concerning overall satisfaction was completed at the postop visit. The data were analyzed using Microsoft Excel; statistical significance was determined using a homoscedastic t-test. **Results:** There was equivalent pain control between the two groups and less doses of suppositories were required. Parents reported that the suppositories were easier to administer, that the child was more willing to take the suppository and that tolerance was equivalent. Almost half of parents using oral pain medication would consider switching or definitely switch to suppositories for future surgeries. **Conclusions:** This is the first prospective, randomized control trial to show that acetaminophen with codeine suppositories are a safe and effective way to manage postoperative pain after a T&A. Suppositories provide equivalent pain control to oral medication with fewer doses. They are easier to administer in the early postoperative period and have similar adverse effects as oral medication. Overall parent satisfaction is greater with suppositories when managing pain in the postoperative period following adenotonsillectomy.

2:34 Discussion with Touch Pad Questions

2:42 Morbidity Following Flap Reconstruction of Hypopharyngeal Defects
Jonathan R. Clark, MBBS, Toronto, ON Canada
Ralph Gilbert, MD, Toronto, ON Canada (*Presenter*)
Jonathan Irish, MD, Toronto, ON Canada
Dale Brown, MD*, Toronto, ON Canada
Peter Neligan, MD, Toronto, ON Canada
Patrick J. Gullane, MD*, Toronto, ON Canada

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the potential complications associated with reconstruction of laryngopharyngeal defects and understand the rationale for the reconstructive algorithm proposed.

Objectives: Laryngopharyngeal reconstruction continues to challenge in terms of operative morbidity and optimal functional results. The primary aim of this study is to determine whether complications can be predicted on the basis of reconstruction in patients undergoing pharyngectomy for tumors originating or extending to the hypopharynx. In addition, we detail reconstructive algorithm for management of partial and total laryngopharyngectomy defects. **Study Design:** Retrospective cohort study. **Methods:** A retrospective review was performed of 153 patients undergoing flap reconstruction for 85 partial and 68 circumferential pharyngectomies at a single institution over a 10 year period. There were 118 males and 35 females, the median age was 62 years and mean follow up was 3.1 years. Pharyngectomy was performed for recurrence after radiotherapy in 80 patients and as primary surgery in 73. Free flap reconstruction was used in 42%, with 30 jejunal, 15 radial forearm, 11 anterolateral thigh, 5 rectus abdominus and 3 gastroomental flaps. Gastric transposition and pectoralis major pedicle flap was used in 14% and 44% of patients, respectively. Morbidity was analyzed according to extent of defect, regional versus free flap, enteric versus fasciocutaneous free flap reconstruction and the effect of laparotomy. **Results:** The total operative morbidity and mortality rate was 71% and 3%, respectively. The most common complications were hypocalcemia in 45%, pharyngocutaneous fistula in 33%, and wound complications in 25%. The late complication and stricture rate was 26% and 15%, respectively. Morbidity could be predicted by initial treatment modality, defect extent, method of reconstruction and use of laparotomy. Circumferential reconstructions increased total ($p = 0.046$) and flap related complications ($p = 0.037$), hypocalcemia ($p < 0.001$), late complications ($p = 0.003$) and stricture rate ($p = 0.009$). Gastric transposition had increased total ($p = 0.007$), flap related ($p = 0.035$), late complications ($p = 0.034$), and hypocalcemia ($p = 0.001$). Pharyngocutaneous fistula was increased in patients undergoing salvage pharyngecto-

my for radiation failure (p = 0.048) compared to primary surgery. On multivariate analysis, gastric transposition independently predicted for wound complications (p = 0.014) and fistula (p = 0.012), abdominal surgery predicted for hypocalcemia (p = 0.050) and circumferential defects for flap related (0.030) and late complications (p = 0.042). Tracheoesophageal speech was the method of voice restoration in 47% of patients. A solid diet was achieved in 81% of patients, however in 8% an oral diet was never attained and 16% of patients were dependent on G-tube feeds for either total or supplemental nutrition. **Conclusions:** The operative morbidity associated with pharyngeal reconstruction is high in terms of early and late complications. We were able to predict early and late morbidity by defect extent and reconstruction type, initial treatment modality and laparotomy. Swallowing function is acceptable, however less than half of the patients undergoing pharyngectomy had TEP voice restoration.

2:50 ***Resident Research Award - Third Prize***
The Effect of Low Molecular Weight Heparin on Microvenous Thrombosis in a Rat Model
Kevin S. Emerick, MD, Boston, MA (*Resident Travel Award*)
Daniel G. Deschler, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the potential role for a low molecular weight heparin in microvascular surgery.

Objectives: To assess the impact of a low molecular weight heparin (LMWH), dalteparin, on a thrombogenic microvenous anastomosis. **Study Design:** Randomized, blinded animal model. **Methods:** Using male Sprague Dawley rats, 70 IU/kg of dalteparin or saline was administered subcutaneously in a blinded randomized fashion. Using microsurgical techniques, the femoral venous pedicle was isolated bilaterally. A tuck anastomosis was then performed on each side. Vessel patency was assessed periodically for three hours using a strip and refill test. Patency or thrombosis was confirmed by cutting the vessel proximal to the anastomosis and examining the lumen for thrombus. **Results:** A total of 58 venous tuck anastomoses were performed. There was no difference in bleeding complications between the treatment and control groups. The control group had a thrombosis rate of 50% and the treatment group had a thrombosis rate of 60%. Chi-squared analysis does not indicate a statistical difference between these two groups ($p < 1.0$). **Conclusions:** Low molecular weight heparin, at standard therapeutic dosing, may not provide an adequate antithrombotic effect to prevent anastomotic thrombosis in free tissue transfer.

2:58 **A Surgical Alternative for Facial Nerve Tumor Treatment: Short-Term Results of Radiotherapy**
Todd A. Hillman, MD, Pittsburgh, PA
Douglas A. Chen, MD, Pittsburgh, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to compare current philosophies of facial nerve tumor treatment and understand the new potential role of stereotactic radiotherapy for these tumors.

Objectives: The management of facial nerve tumors involves balancing tumor treatment with preservation of facial nerve function. Surgical excision typically results in facial nerve function compromise as a result of intimate tumor involvement with remaining neurons. Management of these tumors therefore often includes a period of observation followed by surgical intervention when facial paresis occurs or the tumor demonstrates growth. No literature exists specifically addressing the role of radiotherapy in facial nerve tumors. We present the evaluation, management plan, and results of patients with known facial nerve tumors who elected to proceed with radiotherapy as definitive treatment. **Study Design:** Retrospective case series review. **Methods:** Review of medical records for facial nerve results, hearing results, and tumor control. **Results:** One patient had a facial nerve tumor identified at the time of surgery, which was intentionally not removed. Another had a spontaneous, persistent facial nerve paralysis and an IAC lesion consistent with a facial nerve tumor. Both elected to undergo radiotherapy. Facial nerve function remains a grade I/VI on the House-Brackmann scale on the first patient and actually improved from a grade VI/VI to a grade III/VI in the second patient, both nearly a year out from treatment. These tumors have not demonstrated growth. **Conclusions:** Current philosophies of facial nerve tumor management attempt to balance facial nerve tumor control with function. Radiotherapy for these tumors appears to preserve short-term facial function and may be a viable alternative to surgical management.

3:06 **Discussion with Touch Pad Questions**

3:14 **Break/Poster Viewing/Visit with Exhibitors - Toronto II & III & Foyer**

Moderators: Michael J. Ruckenstein, MD MSc*, Philadelphia, PA

3:40 **Characteristics and Incidence of Clinical and Subclinical Facial Nerve Stimulation in Pediatric Cochlear Implant Users**
Sharon L. Cushing, MD, Toronto, ON Canada (*Resident Travel Award*)
Blake C. Papsin, MD FRCSC*, Toronto, ON Canada
Karen A. Gordon, PhD, Toronto, ON Canada

Educational Objective: At the conclusion of this presentation, the participants should be able to 1) recognize the clinical characteristics of facial nerve stimulation in cochlear implant users; 2) describe the populations at risk of facial nerve stimulation; and 3) describe the incidence of facial nerve stimulation in cochlear implant users.

Objectives: Electrical stimulation from a cochlear implant can spread beyond the auditory nerve. The aims of this study were to accurately measure facial nerve stimulation in pediatric implant users and to determine the characteristics and incidence of this unwanted activity. **Study Design:** Part A: A prospective study of a randomized sample of 39 pediatric implant users. Part B: Retrospective analysis of 70 children with previously recorded electrically evoked auditory brainstem responses (EABR). **Methods:** Responses were evoked by 3 electrodes along the implant array in 3 groups of children: 1) postmeningitic, 2) abnormal cochlea, 3) neither. Intraoperative measures were obtained under anesthesia, all other recordings were completed in awake children. **Results:** Intraoperative recordings revealed large nonauditory responses in a number of channels including the midline EABR. Under paralysis, these responses disappeared and clear EABRs were recorded. Similarly electromyographic (EMG) responses were found in more than 60% of experienced implant users (Nucleus 24): 36% of postmeningitic children, 100% of those with abnormal cochlea, and 60% of those with neither. Retrospective analysis of previously recorded EABR demonstrated facial nerve stimulation in 36%. In most cases, facial nerve stimulation occurred when levels were perceptually loud but comfortable. **Conclusions:** 1) Facial nerve potentials can be recorded using EMG, in cochlear implant users at high levels of stimulation; 2) the EABR can be obscured in the presence of facial nerve stimulation and care should be taken to distinguish it from the EMG response, particularly when auditory brainstem activity is in question; and 3) use of EMG provides an additional objective measure to ensure the safe and comfortable use of cochlear implants.

3:48 **Osseointegration Timing for BAHA Loading**
Jack J. Wazen, MD*, New York, NY
Soha N. Ghossaini, MD, New York, NY
Jaclyn B. Spitzer, PhD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be familiar with the effect of time on the osseointegration process between the bone and titanium implants. The participants will also be informed about the safety of reducing the waiting time for loading of the BAHA from 3 months to 6 weeks.

Objectives: The process of osseointegration for creating a biological bond between titanium oxide and bone is time dependent. However, different surgeons have used

very varied timeframes before loading the implant. The BAHA traditional waiting period consisted of 3 months for adults and 4-6 months for children. The purpose of the present study is to evaluate the safety of reducing the waiting time to 6 weeks in adults. **Study Design:** Prospective study of BAHA patients who were implanted between March 2004 and June 2005. **Methods:** Thirty-three patients underwent titanium implants for BAHA and were exteriorized in a single stage. They were loaded with the external processor after 6 weeks. The etiologies of hearing loss included Meniere's disease, acoustic neuroma, congenital aural atresia and chronic ear disease. Follow-up period ranged between 14 months and 6 weeks. **Results:** All patients were successfully implanted with the titanium implants and have retained their prosthesis. No complications were reported. Audiologic outcomes were comparable in this sample to those in our studies with longer waiting for loading. Patients were satisfied with receiving the external processor earlier. **Conclusions:** Reducing the waiting period from 3 months to 6 weeks did not result in any failure of osseointegration of the titanium implants. The earlier activation resulted in enhanced patient satisfaction.

3:56 The Prevalence and Clinical Course of Patients With "Incidental" Acoustic Neuromas

Anita Jeyakumar, MD, Rochester, NY (*Resident Travel Award*)
Rahul Seth, MS, Rochester, NY
Todd M. Brickman, MD, Rochester, NY
Paul Dutcher, MD, Rochester, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to estimate the prevalence of incidental acoustic neuromas and understand that the treatment algorithm for these incidental acoustic neuromas can be more conservative as compared with symptomatic acoustic neuromas.

Objectives: To estimate the prevalence of "incidental" acoustic neuromas (ANs) in a group of patients with the diagnosis, and to determine if the prognosis and progression of the disease is different from patients with the typical symptoms. **Study Design:** A retrospective evidence based case series was done of patients with AN seen at the department of otolaryngology between November 1999 to January 2005. **Methods:** A retrospective evidence based case series was done of patients with AN seen at the department of otolaryngology between November 1999 to January 2005. All patients had an MRI with gadolinium to establish the diagnosis of AN. A medical chart review of these patients was searched for sex distribution, age, presenting symptoms, hearing loss, speech discrimination scores, tumor characteristics by imaging, intervention performed, and time between diagnosis and intervention. The studied population was divided into those patients with pre-imaging audiovestibular symptoms provoking a clinical suspicion of AN (symptomatic group) and those without a pre-imaging suspicion of AN (incidental group). **Results:** The charts of one hundred and twenty patients with ANs were analyzed and categorized as either incidentally or symptomatically discovered. Incidentally discovered ANs accounted for 18% of patients with the diagnosis of AN in our population. The average age at diagnosis was 60.3 and 59.1 years ($p=0.71$) in the symptomatic and incidental groups, respectively. The gender distribution was not different between the groups ($p=0.58$). Audiometry revealed a speech discrimination score asymmetry greater in the symptomatic group ($p<0.0001$). Tumor size by imaging performed at diagnosis in the incidental population was an average of 0.95cm, compared with 1.3cm in the symptomatic patients ($p=0.04$). A greater proportion of patients with symptomatically discovered AN underwent intervention by surgical resection, stereotactic radiosurgery, or radiation compared to patients with incidentally discovered AN (77.8% versus 50%, $p=0.01$). **Conclusions:** This study suggests that among patients diagnosed of AN, a substantial portion are discovered incidentally. ANs that are found incidentally have a more benign nature and are less likely to require surgical or stereotactic interventions.

4:04 Discussion with Touch Pad Questions

4:12 PANEL: KEEP YOUR EARS TO THE GROUND: CURRENT AND FUTURE OTOLOGIC INNOVATIONS
Moderator: Samuel H. Selesnick, MD*, New York, NY
Panelists: Michael J. Ruckenstein, MD MSc*, Philadelphia, PA
Anil K. Lalwani, MD*, New York, NY
Dennis S. Poe, MD*, Boston, MA
Julian M. Nedzelski, MD*, Toronto, ON Canada

5:10 Adjourn

5:15 - 7:00 MEET THE AUTHORS POSTER RECEPTION - FOYER

SUNDAY, JANUARY 22, 2006

7:00 - 12:00 **Registration - Foyer**

7:00 - 12:00 **Speaker Ready Room - Casson**

7:00 - 7:45 **BUSINESS MEETING (MEMBERS ONLY) - CARMICHAEL/JACKSON**

7:00 - 11:00 **Exhibit Hall Open - Toronto II & III**

7:15 - 7:45 **Continental Breakfast with Exhibitors - Toronto II & III**

8:00 - 11:00 **Spouse Hospitality - Tom Thompson Room**

7:50 - 12:00 **SCIENTIFIC SESSIONS - TORONTO I**

MODERATORS: MARVIN P. FRIED, MD*, BRONX, NY
DALE H. BROWN, MD*, TORONTO, ON

7:50 **Announcements**

7:55 **Combined Tongue and Pharyngeal Rotational Flaps: A Novel Technique for the Management of Severe NPS and OPS Obviating the Need for Stenting**
Sanjay R. Parikh, MD, Bronx, NY
Olga C. Aroniadis, BA, Bronx, NY
Natalie P. Steele, MD, Bronx, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the current literature for managing severe nasopharyngeal (NPS) and oropharyngeal (OPS) stenosis and appreciate this novel technique which obviates the need for stenting.

OBJECTIVES: To review current management strategies for nasopharyngeal and oropharyngeal stenosis and to present a novel technique for a severe case of complete NPS and OPS. **STUDY DESIGN:** Case report. **METHODS:** A four year old boy presented with complete NPS and severe OPS accompanied by airway compromise and obstructive sleep apnea. The patient's presentation and surgical intervention are discussed. **RESULTS:** Surgical reconstruction with widening of the nasopharyngeal and oropharyngeal apertures was performed using local rotational pharyngeal and tongue flaps without stenting. In a second procedure triamcinolone was injected to prevent restenosis. At two months follow-up the patient had a patent nasopharynx and oropharynx. **CONCLUSIONS:** While complete NPS and OPS is a challenging ongoing dilemma, customized local flap reconstruction and triamcinolone injection can be used to successfully reconstruct the aerodigestive tract.

8:07 **Enophthalmos as a Complication of Rhinoplasty**
Jean Anderson Eloy, MD, New York, NY
Michael R. Shohet, MD, New York, NY
Adam S. Jacobson, MD, New York, NY
Ebrahim Elahi, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the pathophysiology and differential diagnosis of maxillary sinus atelectasis as well as its clinical sequela. Additionally, the participants should recognize that silent sinus syndrome is a rare but real potential complication of rhinoplasty. Options for treatment will also be discussed.

OBJECTIVES: The objective of this presentation is to introduce for the first time in the literature an unusual complication of rhinoplasty. The clinical aspects of silent sinus syndrome will be detailed while discussing how this complication can occur as a result of rhinoplasty. **STUDY DESIGN:** Single case presentation and review of the literature regarding silent sinus syndrome. **METHODS:** This presentation is based on a single case with a thorough literature review. Additionally, controversies regarding the diagnosis of silent sinus syndrome will be highlighted. **RESULTS:** Patient has been followed from the onset of enophthalmos and over one year post-operatively with a combination of orbital, optical nerve, and prismatic measurements. **CONCLUSIONS:** This case illustrates the finding of maxillary sinus atelectasis and resultant enophthalmos as a sequela to rhinoplasty. Silent sinus syndrome is a known clinical entity caused by negative sinus pressure from acquired obstruction of the maxillary sinus ostium which results in enophthalmos and hypoglobus. It is our suspicion that aberrant osteotomy placement caused uncinate process subluxation at the time of rhinoplasty and resulted in silent sinus syndrome in this patient. This case also illustrates the complex reconstructive challenges of repairing an orbit in the setting of fistulization of the orbit with the maxillary sinus cavity. In particular, we will highlight the inferior fornix transconjunctival approach with simultaneous maxillary sinus aeration via a transnasal endoscopic approach.

8:15 **Dysregulation of the Apoptotic Pathway in Chronic Rhinosinusitis**
Mark G. Shrime, MD, New York, NY (*Resident Travel Award*)
Ashutosh Kacker, MD, New York, NY
Andres F. Orjuela, MD, New York, NY
Vijay K. Anand, MD*, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the role and dysregulation of apoptosis in sinusitis, the role of gene microarray in altering concepts in the pathophysiology of chronic rhinosinusitis, and future directions in treatment for the disease.

OBJECTIVES: Gene expression in the sinus mucosa of patients with chronic hyperplastic rhinosinusitis was compared with that of normal subjects using gene microarray technology. The specific aim of this paper was to examine alterations in the expression of genes involved in cellular apoptosis between these two groups. **STUDY DESIGN:** Prospective experimental study. **METHODS:** Total RNA samples were harvested from sinus mucosal biopsies of 14 patients with chronic rhinosinusitis and from 4 normal controls. The data for 22,000 genes were generated from 18 hybridizations. Data normalization, log transformation, and pattern study were undertaken. Comparison between patients with chronic sinusitis and normal controls was performed using the Welch t-test with log transformed data. **RESULTS:** A total of 4974 genes were shown

to have differential expression between the two groups (p d0.05). The apoptotic pathway was overlaid with the differentially expressed gene list, yielding fifteen unique apoptotic genes (among seventeen cDNA copies) as consistently under- or over-expressed in chronic sinusitis. Eleven genes were under-expressed in sinusitis; all are pro-apoptotic. Four genes were over-expressed, one of which is also pro-apoptotic. Of the remaining three, one promotes cellular degeneration during inflammation, one is death protective among eosinophils, and one novel cDNA is of unknown function. The functions of each protein are discussed. **Conclusions:** Apoptosis is down-regulated in patients with chronic sinusitis, with a tendency for an up-regulation of genes conferring a protective effect. Further elucidation of gene functions in the setting of chronic sinusitis may aid in the development of new therapeutic modalities.

8:23 Discussion with Touch Pad Questions

8:31 The Impact of Gender on the Clinical Presentation of Inflammatory Paranasal Sinus Disease
Nicolas Y. Busaba, MD, Boston, MA
Hyeijung J. Shin, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the impact of the adult patient's gender on the clinical presentation (symptoms, comorbidities, diagnosis, and response to treatment) of inflammatory paranasal sinus disease.

Objectives: Determine the impact of the patient's gender on the clinical presentation of inflammatory paranasal sinus disease. **Study Design:** Prospective case control study. **Methods:** 514 adult patients who presented with inflammatory paranasal sinus disease were enrolled. The patients were divided into two groups based on gender: female (n = 276) and male (n = 238). The following data were collected: presenting symptoms, comorbidities (asthma, environmental allergy, and psychiatric illness), nasal endoscopy and sinus CT findings, diagnosis, and the outcome of surgery. Statistical analysis was performed using Chi-square test, with statistical significance set at $p < 0.05$. **Results:** Among the presenting symptoms, facial pain and headache were more prevalent among females, while nasal congestion/obstruction was more common among males ($p < 0.05$). There was no statistically significant difference in the prevalence of allergy, asthma, psychiatric illness and anatomic variants that can potentially obstruct the osteomeatal unit between the genders. Chronic rhinosinusitis (CRS) without polyposis and recurrent acute rhinosinusitis were the more common diagnoses among female patients, while CRS with polyposis was more common among male patients ($p < 0.05$). Antral-choanal polyp, barosinusitis, and mucocele were equally prevalent in both gender groups. Following surgery, a higher percentage of male patients reported improvement in nasal congestion/obstruction ($p < 0.05$), but there was no statistically significant difference in the improvement of the other presenting symptoms between the genders. **Conclusions:** Female patients who suffer from inflammatory paranasal sinus disease are more likely to complain of facial pain or headache on presentation and diagnosed with CRS without polyposis or recurrent acute rhinosinusitis. On the other hand, male patients are more likely to complain of nasal congestion/obstruction, diagnosed with CRS with polyposis, and report improvement in nasal congestion/obstruction following surgery. The prevalence of asthma, allergic rhinitis and mental illness is similar between both genders.

8:39 Quality of Life Outcome and Incidence of Complications Following Image Guided Endoscopic Sinus Surgery
Abtin Tabaee, MD, New York, NY
Amy K. Hsu, BS, New York, NY (*Presenter*)
Mark G. Shrime, MD, New York, NY
Scott Rickert, MD, New York, NY
Lanny G. Close, MD*, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the quality of life outcome and incidence of complications following image guided versus non-image guided endoscopic sinus surgery.

Objectives: To compare the quality of life symptom score and incidence of complications following image guided versus non-image guided endoscopic sinus surgery. **Study Design:** Telephone quality of life survey and retrospective review of patients who underwent endoscopic sinus surgery by a single surgeon at a tertiary medical care center. **Methods:** The operative, office and hospital charts of patients who underwent primary endoscopic sinus surgery for chronic sinusitis were reviewed for patient demographics, incidence of complications and revision procedures. Between 1997 and 2002 the procedure was performed without image guidance, and following 2002 image guidance was routinely employed. A telephone survey was used to administer the postoperative 20 item Sino-Nasal Outcome Test (SNOT-20) to patients in both groups. Overall 61.5% of the patients were successfully contacted and participated in the survey. **Results:** 60 patients comprised the image guided group whereas 179 patients comprised the non-image guided group. The two groups were similar in terms of demographics and procedures performed. In comparing patients who underwent image guided versus non-image guided surgery, respectively, there was no statistically significant difference in the incidence of major intraoperative complications (6.6% vs. 5.6%), major postoperative complications (5% vs. 3.9%), revision procedures (6.6% vs. 7.3%) and postoperative SNOT-20 symptom scores (23.6 vs. 23.4). **Conclusions:** While image guidance may increase surgical confidence, our study does not demonstrate an improvement in the incidence of complications, need for revision procedures or quality of life outcomes for patients undergoing primary endoscopic sinus surgery for chronic sinusitis.

8:46 The Impact of Endoscopic Microbiological Cultures on Clinical Care in Rhinosinusitis
Hakan Cincik, MD, Pittsburgh, PA
Berrylin J. Ferguson, MD*, Pittsburgh, PA (*Presenter*)

Educational Objective: At the conclusion of this presentation, the participants should be able to list the most common pathogens in chronic rhinosinusitis and in acute exacerbations of chronic rhinosinusitis and discuss the frequency in which knowledge of the sensitivities of the microbial pathogen altered treatment.

Objectives: To analyze endoscopically guided culture results (EGCR) from an office setting in patients with subclassifications of rhinosinusitis, including chronic rhinosinusitis (CRS) and acute exacerbations of CRS (AECRS) and to determine the frequency EGCR altered patient management. **Study Design:** Retrospective observational study. **Methods:** Patients were classified as cases of acute rhinosinusitis (ARS) n=6, chronic rhinosinusitis (CRS) n=41, recurrent acute rhinosinusitis (RARS) n=3, or acute exacerbations of chronic rhinosinusitis (AECRS) n=27. Initial therapy was individualized and 36/77 (46.7%) had an antibiotic initiated prior to EGCR. All patients were reassessed 2 to 4 days later and therapy was continued or altered based on clinical course and EGCR. **Results:** EGCR were positive in 47/77 (61%) of all patients. Differences in presence of positive cultures did not reach statistical significance between the subgroups: ARS 3/6 (50%), RARS 3/3 (100%), CRS 21/ 41(51%), AECRS 20/27 (74%). Initial therapy was changed in 48/77 (62.3%) of patients. In 37/77 (48%) the change was directed by EGCR, in 11/77 (14.2%) the change was unsubstantiated by EGCR and in no case was an antibiotic initiated inappropriate to EGCR. The frequency of pathogens in the subgroups of CRS and AECRS, respectively, were staphylococcus aureus [9/41 (22%); 9/27 (33%)], pseudomonas aeruginosa [5/41 (12%), 6/27 (22%)] and acute pathogens [5/41(12%), 7/27(25.9%)] and they were not statistically different. **Conclusions:** EGCR directed a change in therapy in 37/77 (48%) of patients with rhinosinusitis. The pathogens isolated from CRS and AECRS were similar and predominately S. aureus, P. aeruginosa and acute pathogens.

8:54 Discussion with Touch Pad Questions

9:02 Presentation of Awards

9:06 PANEL: SINUSITIS—CASE CHALLENGES AND NIGHTMARES
Moderator: Marvin P. Fried, MD*, Bronx, NY
Panelists: Douglas A. Ross, MD, New Haven, CT

James N. Palmer, MD, Philadelphia, PA
Ian J. Witterick, MD, Toronto, ON
Lanny G. Close, MD*, New York, NY
Sanjay Parikh, MD, Bronx, NY

9:56 Break/Poster Viewing/Visit with Exhibitors - Toronto II & III & Foyer

MODERATORS: GADY HAR-EL, MD*, BROOKLYN, NY
PEAK WOO, MD*, NEW YORK, NY

10:20 Office Steroid Injections of the Vocal Folds
Peak Woo, MD*, New York, NY
Katherine J. Shen, MD, New York, NY (*Presenter*)
Melissa Mortensen, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to define the role of office steroid injections in patients with vocal fold scar, polyps, nodules, and granuloma.

OBJECTIVES: To define the role of office steroid injections in patients with vocal fold scar, polyps, nodules, and granuloma. **STUDY DESIGN:** Retrospective review of 52 injections in 39 patients. **METHODS:** Methylprednisolone acetate suspension, USP 40mg/ml is injected via indirect laryngoscopy under local anesthesia. Results evaluated by video-stroboscopy before and one month after injection. **RESULTS:** Thirty-nine of forty-one patients tolerated injections. Indications: 1) postoperative scar with local stiffness (22 injections/11 patients); 2) vocal nodules and polyps in professional singers (13 injections/12 patients); 3) injection to avoid surgery in patients with polyps and cysts (11 injections/11 patients); and 4) sarcoidosis/granuloma (6 injections/5 patients). Improvement was most noted in the scar group (11/11). Return of the vibratory amplitude and slight improvement in the mucosal wave is noted one month post-injection. Repeat injections may be necessary. Eight singers avoided surgery and continued singing. Five of 11 polyps or cysts resolved or were reduced in size such that patients deferred surgery. Granuloma due to sarcoidosis and tuberculosis responded well, but only if it was localized. **CONCLUSIONS:** Office steroid injections are a valuable adjunct in management of vocal fold scar, polyps, nodules and cysts. Rescue of bad voice outcomes due to hypertrophic scars from vocal fold cover resection is the best indication. Office steroid may be used in lieu of repeated oral steroid trials. In patients with inflamed vocal cysts and small polyps, surgery may be avoided if the patient responds to office steroid injection.

10:28 Dysphagia Testing: Flexible Endoscopic Evaluation of Swallowing With Sensory Testing (FEESST) Versus Modified Barium Swallow
Abtin Tabaee, MD, New York, NY
Paul E. Johnson, MD, New York, NY (*Presenter*)
Carolyn J. Gartner, CCC-SLP, New York, NY
Kevin Kalwerisky, MD, New York, NY
Rosemary B. Desloge, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to compare the results of dysphagia evaluation with flexible endoscopic evaluation of swallowing with sensory testing (FEESST) versus modified barium swallow (MBS).

OBJECTIVES: To compare the results of flexible endoscopic evaluation of swallowing with sensory testing (FEESST) versus modified barium swallow (MBS) in dysphagia testing. **STUDY DESIGN:** Retrospective review of data collected over a 4 year period at a tertiary care medical center. **METHODS:** The FEESST and MBS results for patients receiving both examinations within a two week period were compared with respect to swallowing function. Comparisons were categorized as full agreement, minor disagreement that would not result in a significant difference in diet recommendations and major disagreement that would result in a significant difference in diet recommendations. Kappa with quadratic weighting was calculated to evaluate the inter-test agreement. **RESULTS:** The data for 54 patients met inclusion criteria and were reviewed. 41% of patients were NPO at the time of FEESST and the mean interval between the two examinations was 5 days. Laryngeal examination revealed edema/erythema in 92%, impaired pharyngeal squeeze in 68%, decreased laryngopharyngeal sensation in 88% and absent laryngeal adductor reflex in 35%. FEESST with all consistencies revealed pooling in 89%, penetration in 83% and aspiration in 65% of patients. MBS revealed pooling in 65%, penetration in 67% and aspiration in 54% of patients. Comparison of FEESST and MBS revealed full agreement in 52%, minor disagreement in 13% and major disagreement in 35% of patients. A weighted kappa value of 0.324 signified only fair agreement between the two tests. **CONCLUSIONS:** FEESST and MBS may not represent comparable tests of dysphagia.

10:36 Multiple 585-NM Pulsed Dye Laser Treatments of Glottal Papillomatosis: A Pilot Study Into the Effects of the Laser's Antivascular Properties on the Natural History of Disease Recurrence
Owain R. Hughes, MBBCh, Cardiff, Wales UK
Ramon A. Franco, Jr., MD, Boston, MA
Rebecca L. Cannings-John, PhD, Cardiff, Wales UK

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to demonstrate an understanding of how the 585-nm pulsed dye laser selectively targets tumor microvasculature and discuss potential applications for the laser as an anticancer therapy in the management of recurrent respiratory papillomatosis.

OBJECTIVES: To evaluate the effects of the 585-nm PDL's antivascular properties on the natural history of disease recurrence associated with respiratory papillomatosis. **STUDY DESIGN:** A retrospective review of all 585-nm PDL procedures conducted in our department (N=131). **METHODS:** All patients who received three or more 585-nm PDL procedures for the treatment of glottal RRP are included (N=15). The surgical interval was estimated by calculating the number of days between a patient's initial treatment and each subsequent 585-nm PDL procedure. Statistical models using Weibull distribution were constructed to examine the hazard rate of recurrence over time. **RESULTS:** Six patients (40%) demonstrated a small increasing recurrent rate of papilloma over the study period and nine patients (60%) demonstrated a constant rate over the period. There was no evidence to suggest a different hazard rate of recurrence for those who had received adjuvant treatment with Cidofovir or Indole-3-Carbinol and those who had not. **CONCLUSIONS:** Our experience of using the 585-nm PDL over the past four years under local and general anesthesia has not elicited any new surgical or anesthetic complications. We hypothesize that by destroying the subepithelial microvasculature, multiple 585-nm PDL treatments may delay new tumor growth at the site of the treated epithelium. Observations from laryngoscopic examination suggest that the severity of papilloma lesion recurrence becomes milder following repeated treatments. Larger cohort studies are required to conclusively establish what affects the antivascular properties of the 585-nm PDL has on disease recurrence. This pilot study is intended as a basis for further research.

10:44 Methacholine Challenge Testing With Serial Laryngoscopy in the Diagnosis of Paradoxical Vocal Fold Motion
Joel Guss, MD, Philadelphia, PA (*Resident Travel Award*)
Ronald P. Daniele, MD, Philadelphia, PA
Natasha Mirza, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the application of a diagnostic technique with potential

in differentiating dysfunctional paradoxical vocal fold motion from bronchial asthma during asymptomatic periods in patients with episodic dyspnea.

OBJECTIVES: To determine if bronchoprovocation with methacholine challenge testing (MCT) combined with serial laryngoscopy could elicit paradoxical vocal fold motion (PVFM) during asymptomatic periods and suggest laryngeal dysfunction as an etiology of episodic dyspnea. **STUDY DESIGN:** A prospective study of seven adult patients. **METHODS:** Seven consecutive adult patients who were referred to an otolaryngology practice with refractory bronchial asthma were selected. Patients were evaluated between attacks. After initial fiberoptic laryngoscopy and pulmonary function testing (PFT), bronchoprovocation was performed using aerosolized methacholine at increasing concentrations. Each administration was followed by repeated laryngoscopy and PFT. A positive endoscopic test was marked by the visualization of paradoxical adduction of the true vocal folds during inspiration on three consecutive attempts. A positive bronchoprovocation test was marked by a 20% or greater decline in the FEV1 (forced expiratory volume). **RESULTS:** All seven patients demonstrated normal upper airway anatomy and function on initial laryngoscopy. In three patients, a positive endoscopic examination demonstrating PVFM was elicited during MCT. In three other patients, the bronchoprovocation test was positive and bronchial asthma was diagnosed by PFT. In one patient both tests were negative. **CONCLUSIONS:** PVFM may be elicited and observed during MCT coupled with serial laryngoscopy. This test holds promise in differentiating vocal cord dysfunction from bronchial asthma during asymptomatic periods in patients who present with recurrent episodes of refractory dyspnea.

10:52 Discussion with Touch Pad Questions

11:00 PANEL: LARYNGOLOGY PROBLEMS: FROM STANDARD OF CARE TO STATE OF THE ART
Moderator: Peak Woo, MD*, New York, NY
Panelists: Stanley M. Shapshay, MD*, New York, NY
Robert T. Sataloff, MD*, Philadelphia, PA
Lucian R. Sulica, MD, New York, NY
Ramon A. Franco, Jr., MD, Boston, MA

11:55 Introduction of Vice President-Elect, Margaret A. Kenna, MD*, Boston, MA
Patrick J. Gullane, MD*, Toronto, ON

12:00 Adjourn

POSTERS

1. The 2002-3 NAMCS Data on GERD: A Continued Increasing Trend

Kenneth W. Altman, MD PhD, New York, NY
Robbin M. Stephens, BA, Chicago, IL
Christopher S. Lyttle, MA, Chicago, IL
Kevin B. Weiss, MD, Chicago, IL

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the increasing impact of gastroesophageal reflux in medical practice and recognize this as a growing public health problem.

OBJECTIVES: We previously reported a three-fold increase in physician office visits for gastroesophageal reflux disease (GERD) over the period from 1990-2001. The hypothesis of the present study is that there is an ongoing increase in the impact of this disease. **STUDY DESIGN:** Retrospective national medical database review utilizing the National Ambulatory Medical Care Survey (NAMCS). **METHODS:** Data from the 2002 and 2003 NAMCS were examined with physician office visits weighted to provide United States estimates of care. Annual visit rates were calculated and compared to previous data from 1990-2001, stratified for age. Issues in treatment were examined, including prescriptions and physician/patient counseling. **RESULTS:** Ambulatory visits for GERD in 2002 were 6.3/100 for all encounters (age 18 and older) and 9.4/100 in the subset of patients age 45 and older. This is a significant increase over 1990-3 visit rates of 1.7/100 and 2.7/100, respectively. Total office visits to otolaryngologists increased to 592,000 in 2002 (from 89,000 in 1990-3). Proton pump inhibitors dominated physician prescriptions at 68.7%. Diet and tobacco counseling were still performed in a minority of patients. Preliminary data from the 2003 NAMCS demonstrate a similar trend. **CONCLUSIONS:** There is an ongoing increase in the use of ambulatory care services for GERD. It appears that this impact on physician office visits represents more of a public health problem than a symptomatic nuisance. Physician counseling for lifestyle modification of factors known to affect GERD remains very low.

2. Transient True Vocal Fold Immobility in the Setting of Papillary Thyroid Carcinoma

Kamyar Amini, MD, Bronx, NY
Douglas K. Frank, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the significance of transient true vocal fold paresis in the patient diagnosed with papillary thyroid carcinoma. Specifically, to understand the possible mechanisms of vocal fold paresis, the significance of such a finding in the preoperative work-up, and the implications when planning treatment in the rare situation when paresis resolves prior to surgery.

OBJECTIVES: To discuss the relevance of transient true vocal fold paresis (TVFP) in the preoperative evaluation of the patient with papillary thyroid carcinoma (PTC). **STUDY DESIGN:** Case presentation. **METHODS:** The clinical course of two patients with PTC and preoperative transient TVFP will be presented. For each patient, we will describe the preoperative evaluation including physical examination, endoscopy, and fine needle aspiration cytology (FNAC) results. The intraoperative findings, postoperative course, and final pathology will also be presented. **RESULTS:** Both patients had an FNAC diagnosis of PTC after presenting with a palpable thyroid mass. For each patient, TVFP on the side of the tumor was diagnosed during the preoperative period, and in each case the paresis completely resolved prior to operation. Preoperative fiberoptic laryngoscopy as well as computed tomography imaging failed to demonstrate direct intralaryngeal tumor extension in either case. Intraoperatively, the ipsilateral recurrent laryngeal nerve (RLN) was grossly involved with disease in both patients, necessitating resection in order to achieve complete gross excision. **CONCLUSIONS:** TVFP in the setting of a thyroid mass is a harbinger of invasive malignancy, either of the larynx itself or of the RLN. While the thyroid pathologies which can lead to RLN invasion and subsequent TVFP have been well documented, we have found no reports of transient TVFP in the setting of invasive PTC. We conclude that resolution of TVFP should not reduce suspicion of RLN involvement in the setting of PTC. Patients should be counseled appropriately, with stress on the possible need for RLN sacrifice and the complications inherent to this procedure, prior to proceeding with surgery.

3. Metastatic Renal Cell Carcinoma to the Clivus Presenting as Severe Headache and Dysarthria

William J. Azeredo, MD, Syracuse, NY
Charles I. Woods, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to compare the presentation of metastatic vs. primary lesions to the clivus.

OBJECTIVES: To underscore the importance of workup of a clival mass as a possible metastatic lesion, including relatively noninvasive biopsy. **STUDY DESIGN:** Case report. **METHODS:** A case report of a patient admitted to a tertiary care center with literature review. **RESULTS:** A 61 year old male presented with a two week history of severe headache and progressive dysarthria and dysphagia. An MRI was obtained showing a 3x2.5x2.5 enhancing clival lesion at the level of the right jugular foramen. Bone scan was negative for other lesions. A CT guided transnasal biopsy was obtained, which revealed pathology consistent with renal cell carcinoma. CT abdomen revealed mass on kidney. Patient evaluated for palliative radiation to clival metastasis as lesion was too inferior to encompass with gamma knife. **CONCLUSIONS:** Renal cell carcinoma metastases to the clivus are very rare with three case reports in the literature over the past 40 years. The clivus is not readily accessible for biopsy, but was obtainable with CT guided transnasal approach. Discerning whether a lesion is primary or metastatic is key in determining treatment options for the patient.

4. Attitudes of Native Americans Toward Health Care Interactions in Otolaryngology: A Pilot Study

Maria A. Basile, PhD, Newark, NJ
Patricia E. Connelly, PhD, Newark, NJ
Soly S. Baredes, MD*, Newark, NJ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to explain how cultural perceptions can influence health care.

OBJECTIVES: To identify Native American Indian cultural perceptions of various aspects of and potential obstacles to health care specific to otolaryngology and to identify how those attitudes might lead to health care disparity. **STUDY DESIGN:** Exploratory cross-sectional observational study. **METHODS:** A questionnaire with self-identifying gender, age group, and tribe(s)/nation(s) affiliation and nine open ended items was developed for a pilot study to identify Native American Indian cultural perceptions of various aspects of and potential obstacles to health care specific to otolaryngology. All in attendance at each of four cultural gatherings held during summer 2005 were included for voluntary participation. The completed questionnaires were collected after each event for data analyses. **RESULTS:** Data were evaluated for the influence of gender, age, tribal affiliation and gathering on participants' perceptions of various aspects of head and neck health care, specifically: head and neck cancer and its treatment; the use of antibiotics and ear infections; deafness; head and neck imaging; attitudes toward a traditional healer's role in healthcare; and the role of spirituality and trust in health concerns. Reliability of the questionnaire was evaluated as well. **CONCLUSIONS:** The cultural perceptions of this cohort of Native Americans will be discussed specific to their attitudes and beliefs about physicians, treatments and procedures, preferences, and potential conflicts among evidence based practice, traditional Native American medicine, and cultural practices. Differences among and between subgroups will be compared and contrasted. Results will be presented in the context of cultural awareness and healthcare disparity.

5. A Novel Approach in Endovascular Techniques for the Management of Hypervascular Carotid Body Tumors

Raj D. Bhayani, MD, Brooklyn, NY

Tamer T. Malik, MD, Brooklyn, NY (*Presenter*)
Beta B. Bajwa, MD, Brooklyn, NY
Rashid R. Chaudhry, MD, Brooklyn, NY
R. R. Reichman, MD, Brooklyn, NY
Richard R. Fogler, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to learn a new endovascular technique for the preoperative devascularization of carotid body tumors using stent grafts.

OBJECTIVES: To study the feasibility and outcome of a new technique of selective devascularization of hypervascular carotid body tumors by using stents in patients where conventional embolization is not successful. **STUDY DESIGN:** Retrospective chart review and review of literature. **METHODS:** A 55 year old male presented with a very hypervascular carotid body tumor encasing the carotid bifurcation. Angiogram showed the ascending pharyngeal and superior thyroid arteries as dominant arterial feeders. Embolization of the ascending pharyngeal artery using polyvinyl alcohol microspheres measuring 500-700 microns was successful. However repeat angiogram showed no reduction in tumor's vascularity. Selective catheterization of the superior thyroid artery was unsuccessful due to difficult angulation of the origin of the artery and embolization could not be done. A 6mm x 22mm ICAST covered stent graft was placed in the left external carotid artery with proximal portion of the graft covering the origin of the superior thyroid artery and was dilated with a 7mm angioplasty balloon. Repeat angiogram showed no flow through the superior thyroid artery but the tumor showed some vascularity which could be attributed to by small distal branches of the external carotid artery. A second 6mm x 16mm ICAST covered stent graft was deployed into the more distal left external carotid artery with a 2mm of overlap with the first graft. Follow-up angiogram showed complete devascularization of the tumor with excellent distal flow. The patient then underwent an open surgical resection the following day. **RESULTS:** The patient tolerated both the interventional and the surgical procedures well with no residual neurologic deficit and patient was discharged after 3 days of hospitalization with antiplatelet therapy. **CONCLUSIONS:** Hypervascular carotid body tumors present a challenge for open surgical resection due to excessive intraoperative bleeding in a localized surgical field. We succeeded in completely occluding the tumor's feeding vessels using covered stent grafts with successful outcome. To our knowledge this has been reported in only one study in the literature. More experience with this new technique could provide another valuable option for the management of these tumors when conventional embolization techniques are not feasible.

6. Self-Inflicted Penetrating Injury of Neck With Complete Transaction of Larynx and Pharynx
Raj D. Bhayani, MD, Brooklyn, NY
Harmandeep S. Singh, MD, Brooklyn, NY (*Presenter*)
Ahmed A. Khalil, MD, Brooklyn, NY
Richard R. Fogler, MD, Brooklyn, NY
Lordes L. Castanon, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to learn management of self-inflicted penetrating injury of neck larynx and pharynx.

OBJECTIVES: 1) To present the first case report of self-inflicted penetrated injury of neck with transection of larynx and pharynx with successful outcome; and 2) to discuss management strategy of such injuries. **STUDY DESIGN:** Retrospective chart review and review of literature. **METHODS:** 56 year old male presented to ER with self-inflicted transaction of neck and larynx with ceiling glass. He transected his larynx and cut posterior pharyngeal wall. After that he got hold of fluorescent bulb from ceiling and penetrated the open wound with bulb filling larynx, pharynx and precervical muscle with glass pieces. Patient was intubated through open larynx and after tracheostomy, larynx and pharynx were reconstructed after removing more than 30 pieces of glass from larynx, pharynx and precervical muscle. He needed three carbon dioxide laser ablation of laryngeal granulation tissue. **RESULTS:** Patient was successfully decannulated and has normal vocal cord movement, speech and swallowing. **CONCLUSIONS:** This is first case report of self-inflicted penetrating injury of neck with complete transection of larynx and pharynx with more than 30 glass pieces filling the wound with successful outcome.

7. Post-Tonsillectomy Peritonsillar Abscess—A Case Series
Todd M. Brickman, MD, Rochester, NY
Anita Jeyakumar, MD, Rochester, NY
John U. Coniglio, MD, Rochester, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to acknowledge the existence of a post-tonsillectomy peritonsillar abscess and discuss the etiology.

OBJECTIVES: The objectives are to discuss the incidence and etiology of a post-tonsillectomy peritonsillar abscess (PTA). **STUDY DESIGN:** Retrospective case series report of four patients treated in an academic health system. **METHODS:** A chart review was conducted of adult patients with a prior history of tonsillectomy and a concurrent diagnosis of a PTA at the time of presentation for treatment. Diagnosis was made by clinical exam and confirmation of infectious material within the superior aspect of the peritonsil region. Treatment included local incision and drainage (I&D) and/or surgical removal of a tonsil remnant. **RESULTS:** No predilection for sex or indication of initial tonsillectomy was identified. Two males (age-43, 49) and 2 females (age-28, 38) with a tonsillectomy between the ages of 6 and 24 years presented with one to three PTAs in a 18-35 year delay in PTA after initial tonsillectomy. A PTA may develop with or without a tonsillar remnant, regardless of technique used, or tonsillectomy performed for chronic infections or airway obstruction. PTAs did develop after local I&D but none after surgical reoperation. **CONCLUSIONS:** While rare, PTA cannot be excluded with a history of previous tonsillectomy. With increasing implementation of the partial tonsillectomy technique (tonsillotomy), patients must be counseled on the potential delayed complication of a PTA and otolaryngologists aware of this phenomenon. Surgical reexploration should be considered after the first PTA in a post-tonsillectomy patient.

8. Dysphonia and Dysphagia: An Unusual Presentation of Intratemporal Rhabdomyosarcoma in a Child
Andrew E. Burchard, MD, Boston, MA
William A. Numa, MD, Boston, MA
Clark A. Elliott, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize dysphonia, dysphagia, and vocal fold paresis/paralysis as a potential presenting symptom of intratemporal embryonal rhabdomyosarcoma in children.

OBJECTIVES: At the conclusion of this presentation, the participants should be able to recognize dysphonia, dysphagia, and vocal fold paresis/paralysis as a potential presenting symptom of intratemporal embryonal rhabdomyosarcoma in children. **STUDY DESIGN:** We present a case report of intratemporal embryonal rhabdomyosarcoma in a 6 year old child who presented with dysphonia, dysphagia, and vocal fold dysfunction. **METHODS:** We describe a case of intratemporal embryonal rhabdomyosarcoma in a child who presented with dysphonia, aspiration, and vocal fold dysphagia, and we discuss the findings of our thorough review of the literature. **RESULTS:** Rhabdomyosarcomas are rare malignant tumors that originate from immature mesenchymal cells, specifically those that go on to form skeletal muscle. They are the most common soft tissue tumor of childhood and are typically seen in the head and neck region, genitourinary tract, and extremities. The presenting signs and symptoms are highly variable depending on primary tumor site. Our patient presented with dysphonia and dysphagia, delaying the diagnosis of intratemporal embryonal rhab-

domyosarcoma. Clinical, radiographic, and surgical pathologic findings were required to determine the diagnosis. The patient was subsequently treated with combination chemotherapy and intensity modulated radiation therapy (IMRT). After conducting a comprehensive review of the literature, we found this is the first reported case of intratemporal embryonal rhabdomyosarcoma presenting with dysphonia and dysphagia in a child. **Conclusions:** New onset dysphonia, vocal fold paresis, or aspiration should raise the level of suspicion for skull base tumors including RMS in the pediatric patient population. Imaging and surgical pathologic findings are necessary to prevent delay in this diagnosis and allow implementation of the appropriate therapeutic modality.

9. Microdebrider Decompression of Massive Neck Mass: A Novel Method of Excising a Neurofibroma in a Patient With NF2

Sri K. Chennupati, MD, Philadelphia, PA
Ioana Schipor, MD, Fresno, CA
Natasha Mirza, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to describe a novel method of excising large encapsulated neck masses using microdebridement for decompression.

Objectives: This case report describes the excision of a large neck neurofibroma causing compression of the esophagus and airway in a young patient with NF-2 where unipolar cautery was contraindicated secondary to an auditory brainstem implant. The safety and efficacy of this method will be discussed. **Study Design:** The subject of this report was a 26 year old female with NF2. She presented with an enlarging right neck mass extending from the mandible to the clavicle that was compressing both her airway and esophagus. Given her auditory brainstem implant, unipolar cautery was contraindicated. Therefore, we planned to decompress the patient's neck mass using a microdebrider before attempting to fully dissect out the mass. **Methods:** The neck mass was exposed and the mass was entered. Using a tricut blade microdebrider, the mass was debrided and debulked in all directions taking care not to violate the capsule. Following this the entire capsule was dissected out using only suture ligatures for hemostasis. **Results:** Microdebrider decompression of the neck neurofibroma allowed for preservation of the capsule without injuring vital structures in the neck. Postoperatively, the patient's swallowing and laryngeal function improved markedly. **Conclusions:** Microdebrider debulking before dissection of the patient's large neck mass safely relieved compression of the airway and esophagus. This method may be applied to other benign masses in the neck as well.

10. Retropharyngeal Pseudomeningocele Presenting as Dysphagia After Atlanto-Occipital Dislocation

David M. Cognetti, MD, Philadelphia, PA
W. Scott Enochs, MD PhD, Philadelphia, PA
Thomas O. Willcox, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize a retropharyngeal pseudomeningocele as a potential complication of atlanto-occipital dislocation.

Objectives: To demonstrate how a retropharyngeal pseudomeningocele may present as dysphagia in a patient who is recovering from atlanto-occipital dislocation, as well as to discuss the treatment options in this situation. **Study Design:** Case report and literature review. **Methods:** Analysis of a case through medical record and literature review. **Results:** A retropharyngeal pseudomeningocele is a rare complication of atlanto-occipital dislocation. It may develop weeks after the initial injury and can present with respiratory or swallowing difficulties. Decompression via a ventriculoperitoneal or lumboperitoneal shunt facilitates resolution of the cerebral spinal fluid collection. **Conclusions:** A retropharyngeal pseudomeningocele should be considered in all patients' status post atlanto-occipital dislocation who are experiencing respiratory distress or dysphagia.

11. Asymptomatic Intracranial Aneurysms and Otologic Disease: Guidelines for Perioperative Management

Maura K. Cosetti, MD, New York, NY
Christopher J. Linstrom, MD*, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss issues related to the diagnosis and management of unruptured intracranial aneurysms in the perioperative otologic setting.

Objectives: Diagnosis and treatment of asymptomatic, unruptured intracranial aneurysms (UIA) are areas of longstanding controversy in the neurologic and neurosurgical literature. Treatment decisions require a careful consideration of both the potential for aneurysm rupture as well as the risks associated with repair. Studies examining the natural history of UIA, the morbidity and mortality associated with subarachnoid hemorrhage (SAH), and the various treatment options have lead to general guidelines for UIA management. In the literature, however, the simultaneous presence of otologic disease and UIAs has not been introduced or addressed. It is unknown whether surgical treatment of middle ear disease has an effect on the natural history of UIA. **Study Design:** Two illustrative patients with UIA discovered incidentally on radiographic evaluation of middle ear disease are presented. **Methods:** Patients were managed according to diagnostic and treatment strategies developed and validated in the neurosurgical literature. **Results:** Both patients underwent uneventful endovascular embolization of their IA prior to middle ear surgery. The intra- and postoperative courses were uncomplicated, without symptoms related to either their history of IA or the prior embolization. **Conclusions:** Application of neurosurgical diagnostic and treatment algorithms to otology patients in the perioperative setting is appropriate. Established risk factors such as the size and location of the IA, prior SAH, and patient age should guide treatment planning in all cases of UIA. Additional research is needed to evaluate the influence of otologic procedures on the natural history of UIA. In addition, studies are needed to evaluate the role of pre-operative screening for UIA in otologic surgery candidates.

12. Three Dimensional Bladder Scanner as a Novel Technique for Detection of Cervical Hematoma

Thomas F. Della Torre, MD, New Haven, CT
Clarence T. Sasaki, MD*, New Haven, CT

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the possible role of 3D ultrasound in the postoperative management of patients who undergo cervical dissection.

Objectives: We prospectively evaluated the use of a portable 3D ultrasound scanner as a novel technique for detecting cervical hematoma following neck dissection. **Study Design:** The BladderScan BVI 3000 has been designed specifically for the purpose of assessing urinary bladder volume. Patients having undergone neck dissection are evaluated postoperatively for neck hematoma using conventional clinical methods and when appropriate, CT scan, needle aspirate, or urgent reexploration. **Methods:** Patients are categorized according to low, intermediate, and high risk with regard to the clinical suspicion for hematoma. For each of these patients, multiple serial ultrasound measurements are made by a single investigator, and these data are used to correlate with physical exam, needle aspirate, computed tomography, or operative findings. **Results:** Of 64 patients, 30 had minimal postoperative swelling and were otherwise without clinical evidence of hematoma. There were no false positive measurements using the ultrasound in this group. With regards to patients with high clinical suspicion, 5 of the 64 patients had clinical findings highly suggestive of hematoma. Two of these were confirmed by CT prior to reexploration, a third by reexploration alone, and two by needle aspiration. In all 5 cases, portable ultrasound exam confirmed the presence of fluid collection. **Conclusions:** In the evaluation of patients for postoperative hematoma, our data suggest that this portable, 3 dimensional ultrasound device may represent a new, safe and effective screening tool in the rapid assessment by surgical residents and staff with no patient morbidity and at no added cost.

13. Eustachian Tube Destruction With Cogan Syndrome: First Report of a Case

Anand K. Devaiah, MD, Boston, MA
Leslie Winter, MD, Boston, MA (*Presenter*)
Osamu Sakai, MD PhD, Boston, MA
Robert A. Lafyatis, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the clinical characteristics of Cogan syndrome and potential sites of involvement.

OBJECTIVES: This case study describes the first reported case of eustachian tube destruction in association with Cogan syndrome. **STUDY DESIGN:** Case report and review of the literature. **METHODS:** A 25 year old patient presented to otolaryngology and rheumatology with dysequilibrium, right sided hearing loss, and uveitis. Clinic examination revealed a right serous effusion and mixed hearing loss on audiometry. Nasal endoscopy revealed destruction of the nasopharynx and right eustachian tube. A thorough systemic exam, laboratory testing, and imaging studies were performed. For otologic and nasopharyngeal findings, the patient was taken to the operating room for myringotomy, tympanostomy tubes, and nasopharyngeal biopsy. **RESULTS:** The patient's biopsy was negative for malignancy or granulomatous process. Lab results showed an elevated ESR, but testing for infectious and likely autoimmune diseases was negative. Imaging studies revealed internal carotid artery stenosis as well as aortitis. Based on the clinical presentation and diagnostic workup, a diagnosis of Cogan syndrome with systemic manifestation was made. The nasopharyngeal/eustachian tube destruction appeared to be an unexpected part of the systemic manifestation. The patient was treated for both the primary process and the sequelae. The medical and surgical interventions resulted in recovery of otologic function and reversal of systemic manifestations. **CONCLUSIONS:** This case represents the first reported occurrence of Cogan syndrome with eustachian tube destruction resulting in mixed hearing loss. The disease is classically associated with a fluctuating sensorineural hearing loss. Early recognition of the disease variations and evaluation of other organ systems is essential to prevent patient morbidity and mortality.

14. A Rare Clinical Presentation of Bilateral Intratonsillar Abscesses
Karan Dhir, MD, New York, NY
Jason Altman, MD, New York, NY
Edward Shin, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the clinical presentation of the rare finding of bilateral intratonsillar abscesses and recognize the similarity in presentation of bilateral peritonsillar abscesses. In addition, the participants will be able to discuss the possibility of bilateral disease when the common findings of peritonsillar abscesses are absent and discuss a treatment plan for this disease process. We demonstrate this objective through a literature search, a description of management and clinical/radiologic photographs. Lastly, the participants should be able to discuss possible mechanisms in the formation of intratonsillar abscesses.

OBJECTIVES: Although peritonsillar abscesses (PTA) are considered to be common in an otolaryngology practice, a bilateral presentation of this process is rare. Furthermore, there is no recorded instance of bilateral intratonsillar abscesses. In published retrospective studies, bilateral PTA's occur in a range between 1.9—24% of patients undergoing tonsillectomy for suspected unilateral PTA's. Most of the studies did not refer to an intratonsillar location of the abscess. Recognizing bilateral PTA's when evaluating a patient who presents with findings highly suspicious for PTA is difficult. This remains true for intratonsillar abscesses. This presentation will describe a patient that did not improve with 48 hours of intravenous antibiotic therapy and was subsequently diagnosed with bilateral intratonsillar abscesses on CT scan. **STUDY DESIGN:** Case report; literature review. **METHODS:** We admitted the patient for 48 hours of intravenous antibiotics. She remained febrile with an associated leukocytosis. A CT scan revealed bilateral intratonsillar abscesses. Tonsillectomy was performed and operative findings were in conjunction with the radiological findings. She tolerated the procedure well and was discharged on postoperative day one without further management at 1 month. A literature search was performed to study the incidence of bilateral tonsillar abscesses and its management. **RESULTS:** The presentation of bilateral intratonsillar abscesses is similar to bilateral peritonsillar abscesses. A literature review failed to demonstrate a prior description or photograph delineating bilateral intratonsillar disease. Lastly, tonsillectomy offers a safe and effective treatment for intratonsillar abscess. **CONCLUSIONS:** The diagnosis of bilateral peritonsillar abscesses as well intratonsillar abscesses should be considered when the clinical suspicion is high for peritonsillar abscess but the examination reveals symmetrical tonsils with a midline uvula.

15. Risk Factors For Long-Term Dysphagia Following Organ Preservation Protocols for Advanced Stage Head and Neck Cancer
Kevin H. Ende, MD, Philadelphia, PA
Miriam N. Lango, MD, Philadelphia, PA
John A. Ridge, MD PhD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to stratify the risk of long-term dysphagia in patients with advanced stage head and neck cancer following organ preservation protocols by subsite, TNM stage, age, type of treatment, and comorbidities.

OBJECTIVES: Assess the impact of TNM stage, age, type of treatment, planned neck dissection, and comorbidities on long-term dysphagia based on diet limitations, feeding tube usage, and tracheotomy. **STUDY DESIGN:** Retrospective chart review. **METHODS:** Charts from the department of head and neck oncology and department of speech and language pathology were reviewed. The records of patients with T1-T4 and N0-N3 head and neck cancer treated with radiation with or without chemotherapy and planned neck dissection were evaluated for patient age, TNM stage, treatment type, XRT dose to the primary site and neck, comorbid conditions, swallowing outcome inferred from persistent need for feeding tube, tracheotomy, and limitations in diet. Only patients without evidence of disease were included. Multiple regression analysis was performed to assess the impact of the above mentioned potential risk factors. **RESULTS:** One hundred thirty patients were identified for inclusion in the study. Patients treated with chemotherapy and XRT without planned neck dissection tended towards lower TNM stage. Dysphagia risk and feeding tube dependence in head and neck cancer patients treated with organ preservation protocols can be stratified based on TNM stage, treatment type and other variables. Those patients receiving chemotherapy and XRT without neck dissection had a statistically significant decreased dependence on g tubes, tracheotomy, and decreased limitations in diet. **CONCLUSIONS:** Patients treated with radiation and chemotherapy frequently experience significant long-term dysphagia following treatment with organ preservation protocols. Post-treatment dysphagia risk can be stratified based on the above mentioned variables and may help with pretreatment planning and discussion.

16. Combined Therapeutic Selective Neck Dissection and Radiation Therapy: A Systematic Literature Review
Aren D. Francis, MD, Brooklyn, NY (*Resident Travel Award*)
Krishnamurthi Sundaram, MD*, Brooklyn, NY
Richard Rosenfeld, MD MPH*, Brooklyn, NY
Gady Har-El, MD*, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to compare regional control rates of patients undergoing selective neck dissection with perioperative radiation therapy with those undergoing radical neck dissection alone.

OBJECTIVES: To determine if selective neck dissection [SND] and radiation therapy have comparable rates of regional recurrence to radical neck dissection in the treatment of metastatic neck disease in squamous cell carcinoma [SCCA] of the upper aerodigestive tract [UADT]. **STUDY DESIGN:** A systematic literature review of the Medline database from 1966 to 2004 was done. **METHODS:** One hundred and one publications related to therapeutic SND were identified. These publications were reviewed and the following selection criteria were used: 1) primary UADT squamous cell cancer; 2) SND performed and radiation therapy given for positive neck disease; and 3) regional recurrence rates are presented. Review articles were excluded. Eleven publications met the selection criteria. **RESULTS:** A total of 687 SNDs'.

Patients were treated with preoperative [61 patients] or postoperative [626 patients] radiation therapy. Types of neck dissections included suprahyoid, supraomohyoid, anterolateral, and lateral. Recurrence rates ranged from 3% to 30% in the dissected neck when SND was combined with radiation therapy. Regional recurrences, morbidity and mortality were comparable to those described in the literature for modified radical and radical neck dissection. **Conclusions:** The literature suggests that therapeutic selective neck dissection combined with radiation therapy has comparable rates of regional recurrence to radical neck dissection in the treatment of metastatic neck disease in UADT SCCA. A definitive statement about the comparative efficacy of SND combined with radiation therapy cannot be made because of heterogeneity of source articles and lack of concurrent controls, but a future randomized comparative study seems warranted.

17. Ewing's Sarcoma of the Skull Base

Aylon Y. Glaser, MD, Newark, NJ
Huma A. Quraishi, MD, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the features and presentation of skull base Ewing's sarcoma (ES) as well as its workup and clinical management.

Objectives: To describe a case of Ewing's sarcoma of the skull base, including clinical presentation, differential diagnosis, imaging, pathological findings. **Study Design:** Retrospective chart review of a case of skull base Ewing's sarcoma. **Methods:** The clinical presentation, management, and outcomes were reviewed. **Results:** A 5 year old female presented to the emergency department complaining of increasingly severe headaches over the course of one month. Patient's parents also reported increased fatigue, sleepiness, anorexia and vomiting. Mild ptosis of the left eye was noted on physical examination. Imaging revealed a suprasellar mass extending into the sphenoid sinus, posterior ethmoid air cells and cavernous sinuses with bilateral involvement of the carotid arteries. Patient underwent endoscopic sphenoid biopsy of the mass, revealing a lesion consistent with Ewing's sarcoma. Due to the apparent unresectability of the mass, patient is currently undergoing chemotherapy. **Conclusions:** Though a common tumor of bone, Ewing's sarcoma of the skull base is rare. When presenting in the skull base, the temporal bone is usually involved. There are only a couple of reported cases of sphenoid sinus involvement. Usually, patients with ES will have advanced disease at presentation and their prognosis is poor. However, when the disease is in the skull base, patients have tended to present earlier in the disease progression timeline and they appear to have a more favorable prognosis. Local control with resection, radiation, and chemotherapy has played a role in the reported successful treatment strategies. Therefore, early aggressive management in skull base ES must be considered when feasible.

18. The Frontal Wishbone: Anatomical and Clinical Considerations

Hernan Goldsztein, MD, Boston, MA
Ralph B. Metson, MD*, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to identify the "frontal wishbone" on CT scan and understand its relationship to the diseased frontal sinus.

Objectives: To determine the anatomic and clinical significance of the "frontal wishbone"—an air cell within the interfrontal septum which has the typical configuration of a wishbone on axial and coronal CT scans. **Study Design:** Retrospective review. **Methods:** One hundred and fifty consecutive sinus CT scans performed for suspected sinus disease were analyzed at a computer workstation to determine the incidence, size, and drainage pathways of the frontal wishbone. The results were compared for patients with normal and diseased frontal sinuses. **Results:** A frontal wishbone was found to be present in 77.3% patients (n=116). The wishbone typically drained through a discrete ostium to either the right (45.2%) or left (54.0%) frontal sinus. In one patient (0.8%) drainage was bilateral. In those individuals with a frontal wishbone, frontal sinus opacification or mucosal thickening was present in 43.1% of patients (n=50). The presence of this frontal disease correlated with concurrent disease of the wishbone in 82% of cases. The anterior posterior diameter (mean+SD) of the wishbone was also found to be significantly larger in patients with frontal sinus disease compared to those with otherwise normal sinuses (11.6+4.8 vs. 9.7+3.4 mm, respectively, p=0.02). **Conclusions:** The frontal wishbone is a frequently observed air cell which is commonly diseased in patients with frontal sinusitis. During frontal sinus surgery, it is important for the surgeon to consider the presence of disease within the frontal wishbone which may require drainage in order to eradicate all disease.

19. Evaluation of the Patient With Known or Suspected to Have Cervical Tuberculosis Including Decision Tree Paradigm and Analysis of New Policies for Protecting Involved Health Care Workers From Risk of Acquiring TB Infection

Gregory A. Grillone, MD, Boston, MA
Jayme R. Dowdall, BA, Boston, MA (*Presenter*)
Leslie Winter, MD, Boston, MA
Carol A. Sulis, MD, Boston, MA
Kenneth M. Grundfast, MD*, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to appropriately risk stratify patients for operating room tuberculosis precautions according to a user friendly algorithm.

Objectives: Federal (JCAHO and OSHA) regulations and hospital infection control policies require that certain precautions be taken when operating on a patient known or suspected to have tuberculosis. With the recent influx into the United States of immigrants from countries where pulmonary and nonpulmonary tuberculosis is pandemic there have been increasing numbers of patients presenting with neck masses suspicious for TB often requiring open biopsy in the operating room. The objective of this presentation is to alert the otolaryngologist about new policies for protecting health care workers from TB infections when taking a biopsy from a neck mass or cervical lymph node suspected to be tuberculous. Further, this presentation presents a management paradigm helping to determine when open biopsy is warranted in the process of evaluating a patient with a neck mass or enlarged lymph node suspected to be tuberculous. **Study Design:** Review of pertinent federal regulations and typical hospital infection control policies. Proposal of decision tree management paradigm based on clinical experience and collaboration with hospital infection control specialists. **Methods:** The Occupational Health and Safety Administration (OSHA) guidelines were reviewed by a multidisciplinary team including infectious disease specialists and otolaryngologists. New operational guidelines were developed to protect health care workers from acquiring TB when working with and operating on patients known or suspected to have TB. Otolaryngologists applied the newly developed tuberculosis precaution guidelines in several cases. **Results:** Early results suggest that otolaryngologists can successfully manage patients known or suspected to have extrapulmonary TB involving the head and neck while also protecting involved health care workers from acquiring TB infection related to patient contact. **Conclusions:** Otolaryngologists need to know about new federal requirements and hospital policies developed to protect health care workers from acquiring TB as a result of patient contact. A paradigm for diagnostic assessment of patients presenting with signs suggestive of extrapulmonary TB involving the head and neck likely is to be helpful in case management.

20. Primary Squamous Cell Carcinoma of the Thyroid Arising in Hashimoto's Thyroiditis: Case Report and Review of the Literature

Gregory A. Grillone, MD, Boston, MA
Antonio Bueso, BS, Boston, MA (*Presenter*)
David B. McAneny, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should have a better understanding of primary squamous cell cancer of the thyroid including clinical characteristics, appropriate diagnostic workup and treatment options.

OBJECTIVES: Primary squamous cell carcinoma of the thyroid (PSCCT) is a rare tumor accounting for less than 1% of all thyroid cancers. Because of its aggressive nature, it is important for the otolaryngologist to recognize this clinical entity early, know how to differentiate it from squamous cell cancer metastatic to the thyroid, and be aware of optimal treatment recommendations. We present a case of PSCCT in a patient with a long history of Hashimoto's thyroiditis. The literature is reviewed, focusing on the clinical characteristics, pathophysiology, proper diagnostic workup, immunohistochemical diagnosis, and current recommended treatment. **STUDY DESIGN:** Case report with review of literature. **METHODS:** Case report with review of literature (Medline search of the English literature from 1966 to the 2004). **RESULTS:** PSCCT is a highly aggressive tumor, with most patients dying of disease within one year of diagnosis. Rapid growth with invasion of adjacent structures may result in rapidly progressive symptoms including dysphagia, hoarse voice, stridor, and pain. Workup should include panendoscopy with directed biopsies and whole body computed tomography/positron emission tomography to rule out possible primary sites outside the thyroid as well as to look for distant metastasis. Immunohistochemical studies help point to the thyroid as the primary site but may not be confirmatory. Factors associated with improved survival included early stage at diagnosis and combined therapy with complete excision and aggressive radiotherapy. **CONCLUSIONS:** Primary squamous cell carcinoma is a rare entity. As with anaplastic carcinoma, rapid growth and symptom progression should raise clinical suspicion. Specific immunohistochemical staining can be important in differentiating this entity from metastatic disease, but a thorough workup looking a primary site outside the thyroid should be performed. The best outcome is achieved with early diagnosis and complete surgical resection followed by aggressive radiotherapy.

21. Well Differentiated Liposarcoma Atypical Lipomatous Tumor of the Tongue: Case Report and Review of the Literature

Gregory A. Grillone, MD, Boston, MA
Antonio Bueso, BS, Boston, MA (*Presenter*)
Stanley M. Shapshay, MD*, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should have a better understanding of liposarcoma of the oral cavity including the various subtypes, clinical appearance, proper diagnostic workup and appropriate treatment options.

OBJECTIVES: Liposarcoma (LS) of the oral cavity is rare. Management varies depending on the histological subtype. Thus it is important for otolaryngologists to be aware of this entity including the clinical presentation, various subtypes, and management options for each. We present a case report of well differentiated LS (atypical lipomatous tumor variant) of the tongue. The literature on LS in the oral cavity is reviewed, focusing on clinical characteristics, clarification of the histopathologic classification, proper diagnostic workup, and the best current treatment options. **STUDY DESIGN:** Case report and review of literature. **METHODS:** Case report and review of literature (Medline search of the English language literature from 1966 to 2004). **RESULTS:** Liposarcoma of the oral cavity occurs primarily in adult males, with a bimodal peak incidence in the fifth and seventh decades. Clinically it appears as a nodular, firm mass with the most common site being the tongue. LS is classified into four histological subtypes: 1) well differentiated atypical lipomatous tumor (ALT), 2) myxoid, 3) round cell, and 4) pleomorphic. By far the most common subtype occurring in the oral cavity is ALT. ALT typically has little metastatic potential but can occasionally dedifferentiate into high grade non-lipogenic sarcoma. Recurrences are rare with complete excision. The round cell and pleomorphic subtypes have a much higher metastatic potential but these occur rarely in the oral cavity. **CONCLUSIONS:** Liposarcoma of the oral cavity is rare. However it is important to consider this entity in the differential diagnosis of nodular, firm lesions of the oral cavity. Diagnosis requires careful histological evaluation by an experienced pathologist. Treatment and prognosis is guided by tumor size, location and histological subtype. Complete tumor resection is important for disease cure, particularly because adjuvant therapy has yet to demonstrate desirable results.

22. Giant Cholesteatoma Recidivism Following Canal Wall Down Mastoidectomy

Matthew B. Hanson, MD, Brooklyn, NY
Darryl Mueller, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the factors that can lead to an unrecognized giant cholesteatoma recurrence in a patient that has already had a canal wall down mastoidectomy.

OBJECTIVES: To present a series of patients who presented with giant and complex cholesteatomas many years following a seemingly successful canal wall down surgery and to discuss the factors that may have contributed to the recidivism. **STUDY DESIGN:** Case series and literature review. **METHODS:** We present a series of four patients who presented to the lead author with large cholesteatomas that only became apparent after a major complication. The cases are examined for similarities and literature on the subject is reviewed. **RESULTS:** Four patients were presented, two male and two female. In all cases, the recidivism was not discovered until the patient presented with a major neurologic complication: meningitis in three patients and a cerebellar abscess in one. All had had their original cholesteatoma resection as children. All had been followed on a routine basis by an otolaryngologist and had their cavities cleaned regularly; but none were followed by their original surgeon. All had relatively small meatoplasties that prevented complete cleaning and/or inspection of the cavity. None had had any follow-up radiographic studies. **CONCLUSIONS:** Canal wall down mastoidectomy remains an effective way to decrease the recidivism of cholesteatoma, but nonetheless, recidivism remains a major risk. Childhood presentation is a major risk factor for a giant recurrence. A large meatoplasty allowing complete inspection and cleaning of the cavity and prudent radiologic studies may further reduce the risk.

23. Endoscopic Assisted Facelift Approach Towards Facial Epidermoid Cyst Excision

David H. Hiltzik, MD, New York, NY
Andres O. Orjuela, MD, New York, NY
Edward W. Chang, MD DDS, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the concepts and technique of the endoscopic assisted facelift approach toward facial epidermoid cyst excision.

OBJECTIVES: Direct surgical excision of facial epidermoid cysts may result in a poor cosmetic outcome. This report demonstrates a novel surgical technique for an aesthetic and complete excision of facial epidermoid cysts using an endoscopic assisted approach through a modified facelift incision. **STUDY DESIGN:** Case report and literature review. **METHODS:** Patient presentation and detailed surgical technique description. **RESULTS:** A 28 year old woman presented with a five year history of an enlarging left cheek mass. She had an FNA consistent with an epithelial type cyst. A computed tomography scan located a 1.5 cm mass anterior to the parotid gland. The location posed a challenge for an excellent cosmetic result. The endoscopic assisted facelift approach to the cyst provided an alternative to direct excision of the mass. **CONCLUSIONS:** The endoscopic assisted facelift approach toward facial epidermoid cyst excision provides a viable cosmetic alternative to direct excision.

24. Acute Mastoiditis and Subperiosteal Abscess Complicated by Congenital Aural Atresia

Brian C. Kung, MD, Wilmington, DE
Neerav Goyal, BS, Philadelphia, PA
Robert C. O'Reilly, MD, Wilmington, DE

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the management of acute mastoiditis and other complications of otitis media in patients with congenital aural atresia.

OBJECTIVES: To present a rare case of a patient with congenital aural atresia and microtia who presented with acute mastoiditis and a subperiosteal abscess in the atretic ear. There are only five previously reported cases of acute mastoiditis and/or other complications of otitis media occurring in the atretic ears of patients with congen-

ital aural atresia. A review of the literature and possible treatment options will be discussed. **Study Design:** A 1 year old female with left congenital aural atresia and microtia presented with 4 days of fever and 2 days of swelling behind the auricle remnant. On CT scan the patient had mastoiditis and erosion of the mastoid cortex with development of a subperiosteal abscess. **Methods:** This is a report of a case based on chart review, intraoperative pictures, and radiographic images. A review of the literature will also be presented. **Results:** The patient was started on intravenous antibiotics and simple incision and drainage of the abscess was performed with drain placement. Postoperatively, the drain was removed and the patient was discharged. She is currently doing well without any sequelae. **Conclusions:** Management of acute mastoiditis and subperiosteal abscess in an ear with congenital aural atresia is difficult, as variation in the location of important structures such as the facial nerve, sigmoid sinus, labyrinth, temporomandibular joint, and brain can complicate simple mastoidectomy. Incision and drainage of the abscess and intravenous antibiotics is a safe alternative to mastoidectomy, provided that the patient is monitored closely for infection and/or complications postoperatively.

25. Concurrent Chemoradiotherapy in Advanced Oropharyngeal Carcinoma

Brian C. Kung, MD, Philadelphia, PA
William M. Keane, MD*, Philadelphia, PA
Mitchell Machtay, MD, Philadelphia, PA
Rita S. Axelrod, MD, Philadelphia, PA
David M. Cognetti, MD, Philadelphia, PA
Marc R. Rosen, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to compare various methods of treatment for advanced oropharyngeal carcinoma, and note advantages and disadvantages of these methods, in particular concurrent chemoradiotherapy.

Objectives: Physicians have explored various treatments for advanced stage oropharyngeal squamous cell carcinoma (SCCA), but cure rates remain low. We report on our experience with concurrent chemoradiotherapy for advanced stage oropharyngeal SCCA. **Study Design:** This is a retrospective chart review, with authorization granted by the hospital's institutional review board. **Methods:** From September 1998 through May 2004, 43 patients were diagnosed with stage III (5 patients) or IV (38 patients) oropharyngeal SCCA (36 tongue base, 6 tonsil, and 1 posterior pharyngeal wall). None had the primary resected, while 28 patients with resectable cervical metastases had neck dissections prior to chemoradiotherapy. Radiation doses ranged from 65 to 74 Gy, and chemotherapy consisted of paclitaxel and either cisplatin or carboplatin. **Results:** The median time between endoscopy and/or neck dissection and the start of chemoradiotherapy was 27 days. T-stage distribution was 5T1, 12T2, 10T3, and 16T4. Eighteen patients (42%) required hospitalization for complications such as mucositis, dehydration, or fever, nine (21%) were gastrostomy dependent, and nine (21%) were tracheostomy dependent. The median follow-up time was 23 months. Two patients had local regional recurrence within two years and three had persistent disease, for a 2 year local regional control rate of 88%. One had a second primary (esophageal SCCA). Three had distant metastases within two years and one died from cardiac causes. The 2 year event free survival and overall survival rates are 82% and 91%, respectively. **Conclusions:** For oropharyngeal SCCA, combined chemoradiotherapy with or without prior neck dissection has been successful at our institution. This allows preservation of function while maintaining good local regional control and survival rates.

26. Malignant Melanoma Metastasizing to the Thyroid Gland: A Case Report and Review of the Literature

Brian C. Kung, MD, Philadelphia, PA
Saba Aftab, MD, Cleveland, OH
David Rosen, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the course and possible treatment options for metastatic disease presenting as an enlarged thyroid gland, in particular melanoma.

Objectives: The thyroid gland is a relatively uncommon site for secondary malignancy. Even less common is metastasis of malignant melanoma to the thyroid gland. We present a case of malignant melanoma metastatic to the thyroid gland presenting as thyroid enlargement. **Study Design:** This is a case report which utilizes chart review, intraoperative photographs, radiographic images, and pathology slides. **Methods:** A 68 year old patient with no prior evidence of primary skin melanoma presented with a neck mass which tested positive for melanoma. A year and a half following modified radical neck dissection, the patient presented with a diffusely enlarged thyroid gland from which fine needle aspiration revealed metastatic malignant melanoma. **Results:** A few months following this, the patient began having seizures and was found on MRI to have metastatic disease to the brain. He developed ventilator dependent respiratory failure and required a subtotal thyroidectomy during placement of a tracheostomy tube. **Conclusions:** Patients with a history of malignancy and a thyroid nodule present a diagnostic dilemma—is it benign, a new primary, or distant metastasis? Review of this case and the literature strengthens the argument that any patient with a history of malignancy and a thyroid mass should be considered having metastases until proven otherwise.

27. Nasopharyngeal Pleomorphic Adenoma in the Adult

Scott L. Lee, MD, Albany, NY
C. Y. Lee, MD PhD, Albany, NY
Steven Silver, MD, Albany, NY
Siobhan Kuhar, MD PhD, Albany, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to demonstrate understanding in the diagnosis and treatment of a nasopharyngeal pleomorphic adenoma. This is a rare clinical entity with classic histopathological findings. The participants should be able to discuss these unique findings and explain how it differs from other nasopharyngeal pathologies.

Objectives: Salivary gland tumors account for less than 5% of all neoplasms in the head and neck, with pleomorphic adenoma being the most common type. These typically arise in the palate, but we report a rare case of nasopharyngeal pleomorphic adenoma in an adult. **Study Design:** Case report. **Methods:** Case report and literature review. **Results:** The patient presented with unilateral otalgia, tinnitus, and aural fullness. Nasal endoscopy revealed a pedunculated mass adjacent to the left torus tubarius and he was treated with an excisional biopsy. Histological evaluation demonstrated pleomorphic adenoma. **Conclusions:** Pleomorphic adenomas seldom present as nasopharyngeal masses and have a nonspecific appearance on endoscopy. Microscopic examination has characteristic features to aid in an accurate diagnosis. Treatment is primarily surgical and recurrence is unlikely.

28. Efficacy of Bougie Dilation for Upper Esophageal Sphincter Dysfunction

Kelly M. Malloy, MD, Philadelphia, PA
Sonia Chaudhry, BS, Philadelphia, PA
Debra A. Tereschuk, PA-C, Philadelphia, PA
Joseph R. Spiegel, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize the clinical and manometric manifestations of upper esophageal sphincter (UES) dysfunction, as well as have an understanding of the theory and efficacy of large bore bougie dilation of the UES for therapy of this condition.

OBJECTIVES: To assess the efficacy and safety of large bore bougie dilation of the upper esophageal sphincter in patients with clinically significant dysphagia and manometric evidence of UES dysfunction. **STUDY DESIGN:** Retrospective chart review. **METHODS:** We conducted a search of our patient practice management system by procedure codes for esophageal bougie dilation. Our inclusion criteria consisted of patients having undergone esophageal dilation with bougie performed by the senior author for either preoperative symptoms of dysphagia/globus sensation, diagnosis of UES dysfunction, or laryngeal spasm. We excluded patients who had a history of neoplasm involving the UES/cricopharyngeus or esophageal stricture secondary to radiation therapy for head and neck malignancy or due to caustic injury. **RESULTS:** Forty-six patients underwent UES dilation between September 1997 and March 2005; average age was 55.3 years and mean follow-up was 7.3 months. Mean dilation was 58 F (range 42-60 F). Thirty-five preoperative manometry studies demonstrated that 43% of our UES dysfunction patients had elevated UES resting pressure, 43% exhibited pharyngoesophageal incoordination, and 23% had elevated residual pressures. Sixty-one percent of our patients reported some significant degree of symptom improvement following dilation, while 27% experienced no benefit. Eleven percent relapsed after initial improvement. Gastrostomy tube dependence decreased by 50%. No significant pattern of improvement in manometry data could be identified in the 13 postdilation studies obtained on our patients. There were no complications. **CONCLUSIONS:** Large diameter dilation of the UES appears to be safe in patients without structural abnormalities and it demonstrates efficacy based on symptom relief and gastrostomy tube dependency.

29. Orbital and Nonorbital Pseudotumor of the Skull Base—A Guide for the Non-Ophthalmologist

Jason R. Mangiardi, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to describe the etiology, clinical presentation and histology of orbital and nonorbital skull base pseudotumors; to describe the characteristic CT and MRI findings; to discuss the controversy surrounding the need for biopsy in patients with typical presentation and radiologic findings; to discuss surgical approaches for biopsy; to discuss treatment options including systemic steroids, other pharmacologic agents, radiation therapy and surgery.

OBJECTIVES: The term idiopathic orbital pseudotumor (IOP) refers to a nonspecific, nonneoplastic inflammatory process of the orbits without identifiable local or systemic causes. It is one of the most common causes of intraorbital space occupying lesion and frequently presents with unilateral proptosis, eye pain and ocular movement dysfunction. Occasionally, orbital pseudotumors may extend to other areas of the skull base. Rarely, pseudotumors may present as a skull base mass with no or minimal involvement of the orbit. The objectives of the presentation include: to describe the etiology, clinical presentation and histology of orbital and nonorbital skull base pseudotumors; to describe the characteristic CT and MRI findings; to discuss the controversy surrounding the need for biopsy in patients with typical presentation and radiologic findings; to discuss surgical approaches for biopsy; to discuss treatment options including systemic steroids, other pharmacologic agents, radiation therapy and surgery. **STUDY DESIGN:** Retrospective chart review and literature review. **METHODS:** Review of our experience with 6 patients with extraorbital skull base pseudotumor. Review of the relevant literature. **RESULTS:** We treated 6 patients with extraorbital skull base pseudotumor between 1996 and 2004. Four patients had lesions in the pterygopalatine and/or infratemporal fossae (one patient with extension to the temporal region and one patient with extension to the buccal space), and two patients had lesions in the superior aspect of the parapharyngeal space. Five patients had excellent initial response to steroids. Two of them recurred. One patient did not respond to steroids. He is currently stable with limited disease. **CONCLUSIONS:** Inflammatory pseudotumor may present outside the orbit. Certain clinical and radiologic findings may aid in the diagnosis. The mainstay of therapy is corticosteroids. Other chemotherapeutic agents may have a limited role in the treatment protocol. Radiotherapy demonstrates modest efficacy and should be considered in steroid resistant patients.

30. Intraosseous Hemangiomas of the Nasal Bone and the Maxilla: Two Case Reports and Review of the Literature

Anoli Maniar, MD, Newark, NJ
Thomas Tamura, BS, Newark, NJ
Soly Baredes, MD*, Newark, NJ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to describe some common and some uncommon locations for intraosseous hemangiomas. They should be able to discuss the pathologic presentation of these lesions. They should be able to recognize that angiography and embolization is not necessary prior to the surgical excision of some of these lesions. They should be able to discuss common treatments for these lesions.

OBJECTIVES: To present the clinical, radiologic and pathologic features and surgical outcomes of two patients with intraosseous hemangiomas of the nasal bone and the maxilla. **STUDY DESIGN:** Two case reports and review of the literature. **METHODS:** The first patient presented with indolent widening of the nasal bone. He had a history of prior excision of this lesion with pathology revealing a hemangioma. He underwent angiography and then surgical excision. The second patient presented with a one year history of pressure of the left cheek. She underwent imaging and biopsy and then surgical excision. **RESULTS:** The first patient underwent angiography which did not reveal this lesion to be vascular. He then underwent surgical excision using the previous surgical site overlying the nasion. The lesion involved mainly the left nasal bone and the anterior ethmoid sinuses. Pathology was consistent with an intraosseous hemangioma. The second patient did not undergo angiography since the lesion did not appear vascular on imaging and biopsy. Interesting to note is that she had a history of radiation therapy to the face for acne thirty years ago. She underwent left partial maxillectomy using a sublabial approach. The lesion involved the anteromedial aspect of the left maxillary sinus and extended into the nasal cavity. Pathology was consistent with an intraosseous hemangioma. **CONCLUSIONS:** Intraosseous hemangiomas are unusual tumors. The most interesting features in both patients is that the tumor was in unusual locations and neither needed tumor embolization prior to surgery. The second patient had a history of radiation therapy to the face for acne.

31. Ultrasound Guided Drainage of Deep Space Neck Abscess After Swallowed Foreign Body Perforation of the Esophagus

Matthew C. Miller, MD, Philadelphia, PA
Richard J. Schmidt, MD, Wilmington, DE
Mark S. Keller, MD, Wilmington, DE
Stephen G. Murphy, MD, Wilmington, DE
James S. Reilly, MD, Wilmington, DE

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss an alternative strategy to the management of pediatric esophageal perforations. Participants should be able to compare the methodology utilized by the authors to techniques currently practiced and presented in the literature with respect to their potential morbidity, ease of application, and overall patient outcomes.

OBJECTIVES: To describe an alternative technique that may be employed in the management of pediatric esophageal perforations. **STUDY DESIGN:** Case report with review of the pertinent literature. **METHODS:** We describe a case report of a fourteen year old girl who developed an esophageal perforation after accidental ingestion of a shard of glass. We discuss the management and outcomes in context of current literature. **RESULTS:** The patient's esophageal perforation was treated through the use of a percutaneous ultrasound guided aspiration, irrigation, drainage and catheter placement during diagnostic esophagoscopy. The catheter was removed on hospital day 3 and the patient resumed oral feeding by day 5 after normal esophagram. She was discharged home within one week of presentation and the remainder of her recovery was uncomplicated. **CONCLUSIONS:** Selected cases of esophageal perforation may be managed conservatively through the use of percutaneous drainage and intravenous antibiotics. Concomitant esophagoscopy helps to define the extent of the perforation and assure proper positioning at the time of catheter placement. This method is safe and effective and may avoid the need for potentially dangerous and disfiguring surgery.

32. Modified Tarsorrhaphy for Management of the Eye in Facial Nerve Palsy

Luc G. Morris, MD, New York, NY

Richard N. Palu, MD, New York, NY
Mark D. DeLacure, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the indications for tarsorrhaphy in facial paralysis, the weaknesses of traditional tarsorrhaphy techniques, and the modified procedure which addresses these difficulties.

Objectives: Facial nerve weakness requires vigilant medical or surgical attention to the affected eye to prevent injury to the cornea and loss of vision. After medical management, tarsorrhaphy is the first step in surgical management of the eye. Indeed, it is the "gold standard" in cases where rapid recovery of the facial nerve is expected, where there is a coexistent trigeminal nerve deficit, or where the patient is not a candidate for more extensive surgery. Tarsorrhaphy is the only one stage procedure targeting both the upper and lower eyelids. However, traditional tarsorrhaphy techniques are cosmetically unappealing and difficult to reverse—possibly leaving adhesion bands, deformed eyelid margins, trichiasis and even lash loss. We describe a technique for a permanent, yet easily reversible, tarsorrhaphy. **Study Design:** Case series. **Methods:** Ten patients underwent a modified tarsorrhaphy, limited to the posterior lamellae of the lateral eyelids. The medical records as well as intraoperative and postoperative photographs of these patients were reviewed. **Results:** Tarsorrhaphy was selected in patients who were not candidates for more extensive ocular protective surgery, or in cases where facial nerve function was expected to return. The procedure was tolerated well by all patients. There were no cases of dehiscence or exposure keratopathy in postoperative follow-up. The tarsorrhaphy was reversed without cosmetic or functional deficit in those patients who recovered facial nerve function. **Conclusions:** The technique presented—a lateral tarsorrhaphy limited to the posterior lamellae—is an effective approach to either temporary or permanent tarsorrhaphy. This technique anticipates the possibility of either future facial nerve functional recovery or reanimation surgery, because it is easily reversible and does not functionally or cosmetically deform the eyelid margins.

33. Neoadjuvant Tamoxifen Therapy for Aggressive Fibromatosis of the Posterior Triangle of the Neck
Luc G. Morris, MD, New York, NY
Andrew G. Sikora, MD PhD, New York, NY
Mark D. DeLacure, MD, New York, NY
M. Abraham Kuriakose, MD PhD FRCS, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the hormone receptors expressed in fibromatosis, the mechanism and common uses of tamoxifen chemotherapy, and the rationale and patient selection for possible tamoxifen therapy in head and neck fibromatosis.

Objectives: Aggressive fibromatosis of the neck is a rare clinical entity. We present a case of aggressive fibromatosis of the posterior triangle, which invaded neural foramina of the cervical spine, and was found on immunohistochemistry to be estrogen receptor positive. Fibromatoses outside the head and neck have been reported to respond to anti-estrogen therapy, including tamoxifen—a selective estrogen receptor modulator. We hypothesized that tamoxifen therapy might induce tumor regression, allowing a less morbid curative resection. **Study Design:** Case report. **Methods:** The medical records, radiologic studies, and pathologic slides of a patient diagnosed with posterior triangle fibromatosis were reviewed. **Results:** The patient was diagnosed with fibromatosis of the neck based on clinical, radiographic, and pathologic evidence. MRI showed extensive involvement of the body of C7, and neural foramina from C6 to T1, potentially requiring sacrifice of upper extremity function in order to obtain adequate surgical margins. Since the tumor stained positively for estrogen receptors, a neoadjuvant course of tamoxifen was initiated with a goal of reducing tumor volume prior to definitive surgery. During the course of tamoxifen therapy, the lesion regressed by both clinical and radiologic criteria. Nevertheless, dural involvement was still radiographically observed at the conclusion of treatment, necessitating definitive surgical resection. **Conclusions:** Neoadjuvant tamoxifen therapy for fibromatosis of the head and neck has not been described. Fibromatosis often expresses estrogen receptors and may respond to hormonal therapy. When vital structures are threatened in the neck, tamoxifen may permit less morbid tumor resection or provide an alternative in patients who are not surgical candidates. Further study will help to document the efficacy of tamoxifen and other hormonal therapy in this exceedingly rare disease.

34. Osteonecrosis of the Jaws Associated With Bisphosphonate Use, Presentation of Six Cases and Review
Melissa M. Mortensen, MD, New York, NY
William Lawson, MD DDS*, New York, NY
Andre Montazem, MD DDS, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize associated osteonecrosis of the jaw with bisphosphonate use and how to treat this pathologic entity.

Objectives: Bisphosphonates, pyrophosphate analogs, are strong osteoclast inhibitors that are used in the treatment of osteoporosis and bony metastases of solid tumors. There are growing reports of osteonecrosis of the jaws associated with the nitrogen containing bisphosphonates, pamidronate and zoledronic acid therapy. These cases have been most commonly seen and treated by oral surgeons. An untreated maxillary osteonecrosis can lead to pansinusitis involving the otolaryngologist in these patients' care. The otolaryngologist needs to be aware of this possible association and how to treat these patients. **Study Design:** A retrospective study. **Methods:** A retrospective chart review was conducted on patients presenting between October 2003 to November 2004 on patients with refractory osteomyelitis and a history of chronic bisphosphonate therapy. **Results:** Six patients were identified with both of these conditions. The patients presented with nonhealing ulcers of the mandible or maxilla. Three of the patients were on bisphosphonate therapy and the other three had been treated previously with bisphosphonates. Two of the patients required extensive operations to remove the involved bone. One patient required endoscopic sinus surgery. **Conclusions:** Increasing reports of bisphosphonate associated osteomyelitis and the difficulty in treating these patients requires further investigation to identify a subset of patients that are at increased risk for this complication. The optimal dosage and treatment period with bisphosphonates needs to be determined. It is important for the otolaryngologist to be aware of this pathologic entity and know how to diagnose and treat patients with chronic oral ulcers and refractory osteomyelitis of the jaws.

35. Cricopharyngeus and Omohyoid Histopathology in Dysphagic Subjects Undergoing Cricopharyngeal Myotomy
Amanda A. Munoz, Boston, MA
Umberto DeGirolami, MD, Boston, MA
Stephanie Misono, MD, Seattle, WA
Neil Bhattacharyya, MD, Boston, MA
Jo Shapiro, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to compare the appearance of the omohyoid muscle in Zenker's diverticulum subjects and cricopharyngeal dysfunction subjects. They should be able to discuss the implications of omohyoid inflammation and pharyngeal weakness on our pathophysiologic models of these conditions and on future treatments for cricopharyngeal dysphagia.

Objectives: Both Zenker's diverticulum (ZD) and cricopharyngeal dysfunction without a diverticulum (CPD) are attributed to abnormalities in the cricopharyngeus muscle (CP) that result in disordered opening of the pharyngoesophageal sphincter. However, many of the patients with CPD also exhibit signs of diffuse pharyngeal weakness which should be reflected in the strap muscles. We recently observed a small series of CPD subjects who exhibited inflammatory myopathy of the omohyoid without any associated systemic myopathic or neurologic abnormalities. Here we seek to define omohyoid histology in ZD and CPD and to explore whether omohyoid findings are reflective of cricopharyngeal histopathology. **Study Design:** Retrospective review of the medical records of 38 subjects with ZD and CPD. **Methods:** Biopsy specimens of the omohyoid and cricopharyngeus muscles were compared between the two groups using semiquantitative analyses of individual histopathologic

findings and a combined myopathy scoring system. **Results:** The omohyoid muscle in both ZD and CPD exhibits features that would be considered pathologic in normal skeletal muscles. Subjects with CPD have a higher incidence of omohyoid myopathy (6/20 CPD, 5/28 ZD, p=0.02), and inflammation is a markedly significant finding in the omohyoid muscles of patients with CPD (6/10 CPD, 1/28 ZD, p=0.0005). Omohyoid changes do not reflect cricopharyngeal changes within subjects, and cricopharyngeal muscles were not histopathologically different between the two groups. **Conclusions:** Inflammation and myopathy of the omohyoid indicates that pharyngeal weakness may be a previously unrecognized part of CPD pathophysiology. This may explain the mixed postoperative results seen in CPD and may open up new treatment opportunities for this disease.

36. Calcium Pyrophosphate Deposition of the TMJ With Massive Bony Erosion

Brian D. Nicholas, BS, Syracuse, NY
Joseph L. Smith, II, MD, Syracuse, NY
Robert M. Kellman, MD, Syracuse, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to explain the pathophysiology of chondrocalcinosis as it applies to the otolaryngologist. Participants should be able to discuss the medical and surgical management of this disease.

Objectives: Calcium pyrophosphate dihydrate deposition (CPDD), also known as pseudogout or chondrocalcinosis has been most often described in the wrist and knee joints. There have, however, been rare reports of CPDD in the temporomandibular joint (TMJ). We report a case of chondrocalcinosis of the TMJ with massive erosion into the glenoid fossa and temporal bone. **Study Design:** A case report and literature review. **Methods:** The patient's presentation, radiographic, surgical and histopathological findings are discussed. **Results:** Computed tomography revealed a calcified mass in the temporomandibular joint, with erosion into the middle fossa and anterior wall of epitympanum. Subsequent fine needle aspiration (FNA) revealed weakly polarizable tophaceous crystals consistent with calcium pyrophosphate. The patient underwent a left partial superficial parotidectomy for facial nerve dissection and an infratemporal fossa dissection. The mass lateral to the condyle was resected and excision of the condyle was performed for resecting the deep portion of the mass. The mass, white and grossly spongy, had eroded into the glenoid fossa without respect for the articular capsule. There was also significant bony erosion of the inferior aspect of the zygomatic arch and of the temporal bone. Pathology was consistent with chondrocalcinosis. Postoperative laboratory workup revealed an elevated intact parathyroid hormone level and hypocalcemia with no other metabolic abnormalities. **Conclusions:** Cases of calcium pyrophosphate deposition in the TMJ are exceedingly rare. Little is known about the etiology of CPDD and even less about its pathologic behavior in situ. This case report illustrates the massive amount of bony invasion that can occur with calcium pyrophosphate deposition. It also serves as a reminder that, although rare, chondrocalcinosis should be considered in the differential diagnosis of CT identified calcified facial masses.

37. Atypical Schwannoma in the Floor of the Mouth

Leslie A. Nurse, MD, New York, NY
Edward J. Shin, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the clinical presentation, radiologic and pathologic findings, and differential diagnosis of peripheral nerve tumors of the oral cavity.

Objectives: Schwannoma is a benign tumor arising from Schwann cells. Although it has a predilection for the head and neck, its occurrence in the oral cavity is unusual. In this report, we present the case of such a tumor in the floor of mouth which is exceedingly rare. The patient's history and the findings on physical exam and imaging demonstrate that the initial presentation of schwannoma is often similar to presentations of other more common tumors including other peripheral nerve sheath tumors, salivary gland neoplasms, and mesenchymal tumors. Herein, we describe the specific features on exam, imaging, histology, and immunohistochemistry that distinguish schwannoma from the other entities in the differential diagnosis. **Study Design:** Case report. **Methods:** Review of the literature, review of case report patient's history, imaging, operative findings and histopathology. **Results:** N/A. **Conclusions:** The present case of oral cavity schwannoma in the floor of mouth demonstrates that the finding of a firm, rubbery, well encapsulated mass should increase one's suspicion for a peripheral nerve sheath lesion. Due to their involvement with peripheral nerves to which they have grown adjacent, care should be taken to preserve any displaced nerves as well as those included in the neoplasm.

38. Case Report: Frontal Sinus Mucocele Occurring in the Frontal Intersinus Septum

Leslie A. Nurse, MD, New York, NY
William Lawson, MD DDS*, New York, NY
Houtan Chaboki, MD, New York, NY
Demetrio Aguilla, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the anatomy of the frontal sinus interseptum, its identification radiographically and the potential for its role in sinonasal disease.

Objectives: The septum between the two frontal sinuses may contain an air cell called the frontal intersinus septal cell, which occurs in up to one third of the population. The clinical significance of this anatomic variant remains unclear. However, in one study it has been shown that an air cell in this location can be used to widen the frontal recess in the medial lateral dimension thereby reducing the likelihood of restenosis. In addition to being a potential tool in the surgical management of frontal sinus disease, the frontal intersinus cell can also be the site of the same pathologic processes of the frontal sinuses that flank it. There is a paucity of cases describing mucosal disease of the frontal intersinus septum. Herein we report a case of a frontal intersinus septum mucocele in a patient with no history of trauma, surgery or previous symptoms of prior sinus disease. The clinical, radiographic, and intraoperative details are reviewed. The significance of this uncommon variation of frontal sinus anatomy and its recognition on axial and coronal CT imaging are discussed. **Study Design:** Case report. **Methods:** Herein we report a case of a frontal intersinus septum mucocele in a patient with no history of trauma, surgery or previous symptoms of prior sinus disease. The clinical, radiographic, and intraoperative details are reviewed. The significance of this uncommon variation of frontal sinus anatomy and its recognition on axial and coronal CT imaging are discussed. **Results:** N/A. **Conclusions:** N/A.

39. Extramedullary Plasmacytoma of the Thyroid Gland

Brian J. Park, MD MPH, Syracuse, NY
Arthur P. Vercillo, MD, Syracuse, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to compare extramedullary plasmacytoma with its disseminated variant, discuss standard diagnostic and treatment methods, and recognize the need for a multidisciplinary team to treat these uncommon tumors of the head and neck.

Objectives: To report the recent occurrence of extramedullary plasmacytoma in the thyroid gland. **Study Design:** Case report in an academic medical setting. **Methods:** Retrospective report involving surgical, radiation oncologic, pathologic and radiologic care. **Results:** S. D. is a 68 year old female with a history of hypothyroidism who initially presented with occasional dysphagia, neck fullness, and a palpable neck mass. Sonogram revealed a multinodular thyroid gland with a dominant 4.7 cm nodule in the left lobe. She denied any history of voice or weight changes or prior surgery or radiation. Exam revealed midline nodularity without adenopathy. An FNA biopsy showed atypical lymphoplasmacytic infiltrate without identifiable thyroid tissue. Total thyroidectomy was offered for diagnostic and therapeutic reasons. However, in the OR, the thyroid gland was adherent to all surrounding structures including the strap muscles. Extensive neovascularization was also noted. Frozen section revealed malignancy invading muscle—possibly lymphoma, plasmacytoma, or medullary or anaplastic carcinoma. The operation was concluded after incision-

al biopsy. Permanent pathology showed plasmacytoma. Flow cytometry revealed 67% B cells with kappa light chain restriction and CD19+ and CD 38+ expression. The patient was referred to radiation oncology. A bone scan and bone marrow examination are pending. **Conclusions:** Extramedullary plasmacytoma (EMP) is an immunoproliferative, monoclonal B cell disease without clinical evidence of multiple myeloma. It most commonly occurs in the nasal cavity, nasopharynx, and sinuses. Diagnosis of EMP should prompt an investigation for disseminated disease. Radiation therapy is the standard treatment with surgery reserved as second line therapy. Survival at 10 years is 70%.

40. The Role of Neutron Radiotherapy in the Treatment of Anaplastic Thyroid Carcinoma

Brian A. Peshek, MD, Detroit, MI
Ozlem E. Tulunay, MD, Detroit, MI
David Perry, MD, Detroit, MI
Harold Kim, MD, Detroit, MI
John F. Ensley, MD, Detroit, MI
John R. Jacobs, MD*, Detroit, MI

Educational Objective: At the conclusion of this presentation, the participants should be able to determine the utility of neutron radiotherapy in the treatment of anaplastic thyroid carcinoma.

Objectives: Anaplastic carcinoma of the thyroid is a malignant process characterized by invasiveness and rapid growth. Survival is limited to months and death is often caused by uncontrolled local and regional disease. Despite many attempts with new treatments an effective management strategy has yet to be identified. This study looks at the role of neutron radiotherapy in the treatment of anaplastic thyroid carcinoma. **Study Design:** Retrospective chart review. **Methods:** This paper aims to review our experience with 4 cases of anaplastic carcinoma originating from the thyroid gland treated with neutron beam therapy. The average age of the patients was 70.6 (range: 48 to 91 years old). Neutrons were obtained through a superconducting hospital based cyclotron with an isocentrically mounted gantry and multirod collimating system, utilizing a 3D conformal treatment planning system. The median dose for patients treated with neutron irradiation was 10.6 NGy (range: 8-15 NGy). Three patients also received photon irradiation with a median dose of 26 Gy (range: 24-30 Gy). Three patients received concurrent chemotherapy with carboplatin, cisplatin, or adriamycin. **Results:** All of the patients progressed while on treatment. The median survival was 4 months (range: 3-6 months). **Conclusions:** Neutron radiotherapy appears to have minimal efficacy in this disease process.

41. The Agger Nasi Punch Procedure: Maximizing Exposure of the Frontal Recess

Steven D. Pletcher, MD, Boston, MA
Raj Sindwani, MD, St. Louis, MO
Ralph B. Metson, MD*, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss recent advances in frontal sinus surgery.

Objectives: To describe and evaluate a new technique for maximizing exposure of the frontal recess during endoscopic sinus surgery. **Study Design:** Retrospective cohort study. **Methods:** The "agger nasi punch procedure" was performed in 50 consecutive patients who underwent surgery for chronic frontal sinusitis (25 primary and 25 revision cases). This procedure involves removal of the face of the agger nasi cell(s) with a rongeur placed between the anterior attachment of the middle turbinate and the lateral nasal wall. The frontal recess could then be dissected under direct visualization to allow for removal of disease obstructing the frontal sinus outflow tract. **Results:** There were no intraoperative complications. Symptoms of frontal sinusitis were relieved in 43 patients (86%). Seven patients (14%) required additional surgery for frontal restenosis. The surgical success rate was significantly higher for primary cases than revision cases (96% vs. 76% respectively, p=.048). Among the surgical failures, 43% of patients suffered from triad asthma with recurrent nasal polyps. Mean follow-up time was 5.3 years. **Conclusions:** The agger nasi punch procedure appears to be a safe technique which enhances intraoperative visualization of the frontal drainage pathway. This approach may be considered for patients with refractory frontal sinus disease undergoing either primary or revision surgery.

42. Surgical Management of Third Branchial Cleft Sinus Remnant [How I Do It: A Targeted Problem and Its Solution]

Daniel I. Plosky, MD, New Haven, CT
Gunay Ates, MD, New Haven, CT
Clarence T. Sasaki, MD*, New Haven, CT

Educational Objective: At the conclusion of this presentation, the participants should be able to describe third branchial cleft anomalies and their surgical management.

Objectives: Third branchial cleft anomalies are rare and identification along with definitive surgical management can be challenging. We describe a successful technique for reexcision of a third branchial cleft sinus remnant. **Study Design:** Case report. **Methods:** A 16 year old female patient developed a recurring right neck mass four years after initial exploratory surgery was unsuccessful at localizing the disease process. Imaging was obtained which identified the third branchial cleft sinus remnant. **Results:** The lesion was successfully excised using esophagoscopy with stent insertion to localize the sinus in order to facilitate its complete excision. **Conclusions:** The appropriate surgical management of third branchial cleft remnants depends on accurate intraoperative localization of the deformity. The operative method will be described to reduce the risk of missed localization and to avoid unnecessary resection of the thyroid lobe or inadvertent injury to the pharyngeal plexus or recurrent nerve.

43. Correction of Deep Superior Sulcus Deformity With Calcium Phosphate Cement

Edmund A. Pribitkin, MD*, Philadelphia, PA
Howard M. Krein, MD, Philadelphia, PA
Jurij A. Bilyk, MD, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to delineate causes of deep superior sulcus deformity and describe approaches to correct such deformity through augmentation with calcium phosphate cement.

Objectives: A deep superior sulcus is a challenging post-traumatic deformity that has traditionally been treated with limited success through orbital floor implants and through dermis fat grafting into the preaponeurotic space. We sought to avoid the donor site morbidity and need for overcorrection inherent in these grafting techniques by augmenting the superior sulcus with a demineralized bone matrix putty of calcium phosphate cement. **Study Design:** Retrospective case series. **Methods:** Four patients with deep superior sulcus deformities underwent calcium phosphate cement (BoneSource Stryker Corporation) augmentation of the superior bony orbit through a standard brow incision and orbitotomy. At the time of surgery, no effort was made to overcorrect the deformity. Three patients had anophthalmic sockets, and one had a normal seeing eye. **Results:** No patients experienced implant rejection or infection. All had stable integration of the implantable material and permanent augmentation. All patients were pleased with the outcome of their procedure. **Conclusions:** Calcium phosphate cement is a safe, effective means of correcting a deep superior sulcus deformity in selected patients. Calcium phosphate cement converts to hydroxyapatite within six hours and remodels to bone over time, thereby avoiding the donor site morbidity and the need for overcorrection inherent in dermis fat grafting techniques.

44. Midline Submucous Cleft Lip With Nasal Tip Deformity and Both Columellar and Philtral Duplication

Christopher J. Schmidt, MD, Syracuse, NY
Sherard A. Tatum, MD, Syracuse, NY
Sydney C. Butts, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss, contrast and compare both common and rare types of midline cleft lip deformities.

OBJECTIVES: To discuss, contrast and compare both common and rare types of midline cleft lip deformities as well as discuss their repair. **STUDY DESIGN:** Case report. **METHODS:** A report of a 16 year old female evaluated for her midline submucous cleft lip as well as for evaluation of her nasal tip deformity, vermillion defect and both columellar and philtral duplication. **RESULTS:** The patient's history, physical exam and MRI scans were reviewed prior to surgery by the craniofacial team and a genetic consultation was obtained. The patient has a markedly normal and healthy developmental and birth history as well as no family history of clefting, birth defects or learning disabilities. The MRI revealed a midline interhemispheric lesion consistent with a lipoma located at the free edge of her falx but not involving the corpus callosal body. The patient underwent both repair of her lip and septorhinoplasty without complications. **CONCLUSIONS:** Median cleft of the upper lip are rare congenital anomalies. This patient presented with a submucous cleft lip as well as a cerebral midline lipoma, a nasal philtral and columellar duplication and a nasal tip deformity but with a normal developmental history, family history and birth history. This is a heretofore undescribed and unclassified presentation of a median cleft lip in terms of eponymic or non-eponymic syndromes. This does not however exclude either incomplete phenotypic dominance or varied expressivity of genotypic or phenotypic traits.

45. Orbital Lymphoproliferative Disorders: A Case of Orbital Lymphoma With Spread to the Masticator Space and Palate

Christopher J. Schmidt, MD, Syracuse, NY
Sherard A. Tatum, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to delineate the diagnosis and treatment of lymphoproliferative disorders of the orbit, a challenging diagnosis in head and neck patients.

OBJECTIVES: 1) To present a case of lymphoma of the left orbit with spread to the masticator space as well as review the diagnosis of lymphoproliferative disorders of the orbit including pseudolymphoma and lymphoma of the orbit; and 2) additionally, brief reviews of history, of treatment options and of prognosis for both pseudolymphoma and lymphoma of the orbit will be presented. **STUDY DESIGN:** Case report. **METHODS:** A report of a 51 year old male who presented with symptoms of diffuse tearing and then proptosis that was initially diagnosed with pseudolymphoma of the orbit. **RESULTS:** After continued symptoms, treatment with steroids and radiation, rheumatology, radiation oncology and otolaryngology consultation for symptoms, the patient's disease spread to the masticator space and palatal regions. Physical exam, MRI and CT scans, and CT guided biopsies were performed with resultant diagnosis of large B cell lymphoma. The patient is undergoing radiation therapy at this time. **CONCLUSIONS:** Orbital lymphomas as well as inflammatory pseudolymphoma are common pathologies of the orbit that are infrequently encountered yet at times difficult to distinguish. This is important given their differing prognosis and treatments. Biopsy, helical CT and gallium scanning may aid in diagnosis with biopsy being the usual accepted standard; however, biopsy is not always conclusive for diagnosis or for treatment determination. Clinical progression of locoregional disease or unrelieved orbital symptoms despite treatment should trigger doubt in a pseudolymphoma diagnosis given the difficulty in clinical, radiological and pathological diagnoses of lymphoproliferative disorders of the orbit.

46. Chiari Type I Malformation Mimicking Spasmodic Dysphonia

Rahul Seth, BS, Rochester, NY
C. Michael Haben, MD, Rochester, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to describe the pathophysiology and typical clinical presentation of chiari type I malformation and spasmodic dysphonia.

OBJECTIVES: To demonstrate a unique case of chiari type I malformation that presented with symptoms mimicking spasmodic dysphonia refractory to treatment with botulinum toxin laryngeal injections. **STUDY DESIGN:** Case report. **METHODS:** Case report. **RESULTS:** A 36 year old female presented with onset of hoarseness over the past several months characterized by periodic voice loss with mid sentence spasms and loss of phonation. She denied throat discomfort, dysphagia, dyspnea, trauma, and smoking, but had a chronic universal headache of recent onset. There were no abnormalities on physical exam, but her voice was harsh with minor spasms, some brief episodes of clarity, and no tremor. Flexible halogen examination of the larynx revealed adductor type spasms of the vocal folds during speech. The patient underwent three consecutively increasing doses of botulinum toxin A laryngeal injections each 7 to 10 days apart into the thyroarytenoid muscles bilaterally. She gained no voice improvement but experienced adverse effects of the botulinum toxin. An MRI of the brain was obtained that showed a 7mm cerebellar tonsil herniation, indicating type I chiari malformation. After neurosurgical decompression of the herniation, her voice returned to baseline without hoarseness or spasm. **CONCLUSIONS:** Type I chiari malformations have consistently been documented to produce vocal fold paralysis, while there are no reports of it causing vocal fold spasm or symptoms mimicking spasmodic dysphonia. There is a small population of patients diagnosed with spasmodic dysphonia who do not experience improvement with botulinum toxin treatment. For these patients, we recommend the clinician seek possible central neurologic structural etiologies.

47. Pilomatrix Carcinoma: Case Report and Review of the Literature

Peter E. Seymour, MD, Philadelphia, PA
Cory J. Rubin, BA, Philadelphia, PA
Janine E. Mangini, MD, Philadelphia, PA
Edmund A. Pribitkin, MD*, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to identify the characteristics of pilomatrix carcinoma, demonstrate an understanding of its metastatic potential, and discuss the appropriate management of these rare head and neck neoplasms.

OBJECTIVES: To present a case of pilomatrix carcinoma of the right nasal tip treated at our institution and review the clinical features, histopathologic findings and appropriate management of these uncommon neoplasms. **STUDY DESIGN:** Retrospective chart review. **METHODS:** Illustrative case report and literature review generated by Medline citation search. **RESULTS:** Pilomatrix carcinoma is a rare neoplasm occurring predominately in the head and neck (59% of reported cases). Approximately 83 cases have been reported in dermatologic and pathologic literature with rare discussion in otolaryngology journals. Pilomatrixoma, a benign neoplasm of hair matrix origin, shares many histopathologic characteristics with pilomatrix carcinoma. However, pilomatrix carcinoma has a substantial risk of local recurrence (29%) and a significant risk of metastasis from primary head and neck lesions (5%). A 61 year old male presenting with a 4x3x2 cm nasal tip mass underwent complete surgical excision with negative margins at our institution. Postoperative radiation therapy was refused and follow-up yielded no evidence of recurrence or metastasis. **CONCLUSIONS:** Pilomatrix carcinoma, a variant of pilomatrixoma, has been rarely reported in otolaryngology journals and its management remains controversial. Although this neoplasm is rare, it occurs predominately in the head and neck. Therefore, the otolaryngologist must include it in the differential diagnosis when clinical presentation raises suspicion. Early biopsy and wide surgical excision with margin sampling are indicated. Close postoperative follow-up enables early detection of recurrence and/or metastasis. Disease duration, extent of invasion and radiographic evidence of nodal or distant metastases dictate further therapy including neck dissection and/or radiation therapy.

48. Incidental Medullary Thyroid Carcinoma

Ashok R. Shaha, MD*, New York, NY
Ronald A. Ghossein, MD, New York, NY
R. Michael Tuttle, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the frequency of microscopic medullary thyroid carcinoma.

OBJECTIVES: The presence of incidental well differentiated papillary thyroid carcinoma is well known in patients undergoing thyroid surgery for thyroid nodules or goiters. However, the presence of incidental or medullary thyroid carcinoma appears to be under-described in the literature. **STUDY DESIGN:** A microscopic review of tumor samples from patients undergoing total thyroidectomy was undertaken. **METHODS:** Recently, three patients underwent total thyroidectomy for papillary carcinoma of the thyroid and bilateral thyroid nodularities. These patients were found to have incidental microscopic medullary carcinomas of the thyroid ranging in size from 1 to 3 mm. **RESULTS:** The presence of microscopic incidental medullary thyroid carcinoma was noted with the expertise of the pathologist on the routine histopathological review of the slides and final confirmation with immunohistochemistry. **CONCLUSIONS:** Even though the significance of incidental medullary thyroid carcinoma remains unclear, further investigation is needed to evaluate RET mutations in family members.

49. Using EMG Nerve Monitoring for the Excision of a Sympathetic Cervical Chain Schwannoma

Phillip Song, MD, New York, NY
Michael Waltzman, MD, New York, NY
Larry Shemen, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to identify the relevant benefits of using EMG nerve monitoring during excision of schwannomas of the sympathetic cervical chain. In addition, we hope to provide a review of these rare tumors.

OBJECTIVES: Schwannomas are rare benign peripheral nerve tumors thought to arise from the conductive sheath of the nerve, the schwann cell. As of 1997, 38 cases of schwannomas of the cervical sympathetic chain have been reported in the English literature. In addition, EMG monitoring of the recurrent laryngeal nerve is an increasingly common adjunct to surgery. We present a case of a schwannoma of the cervical sympathetic chain and describe our experience using EMG monitoring. In addition, we have reviewed the English literature describing these lesions. **STUDY DESIGN:** Case report and literature review. **METHODS:** Case report. **RESULTS:** EMG monitoring of the recurrent laryngeal nerve allowed us to safely avoid the vagus nerve during parapharygeal space dissection. **CONCLUSIONS:** Given the inability to distinguish the nerve of origin of neurogenic tumors of the parapharyngeal space, EMG monitoring is a useful adjunct to the removal of these tumors.

50. Dysplastic Inverting Schneiderian Papilloma in an Eight Year Old

Jeffrey H. Spiegel, MD, Boston, MA
Teresa V. Chan, MD, Boston, MA (*Presenter*)
Jeffrey C. Hughes, PA-C, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to review the incidence and diagnosis of pediatric schneiderian papilloma and discuss management and natural history of these rare lesions.

OBJECTIVES: 1) Review incidence and diagnosis of pediatric schneiderian papilloma; 2) discuss management and natural history of these rare lesions; and 3) report a rare case of dysplastic schneiderian papilloma in an 8 year old. **STUDY DESIGN:** Literature review and case report. **METHODS:** Literature review and case report. **RESULTS:** While papillomas of the larynx are not common in children overall, they are not uncommonly encountered by the otolaryngologist-head and neck surgeon; however, papillomatous lesions in other aerodigestive tract locations are even less frequently noted. Premalignant lesions are very uncommon in children. Schneiderian papilloma of the nasal tract is a rare finding in adults and few cases have been reported in children. We describe a case of an 8 year old with moderately dysplastic schneiderian papilloma of the nasal cavity. **CONCLUSIONS:** Inverting papilloma is an extremely rare lesion in the pediatric population. We present a case and review diagnosis and management of this neoplasm.

51. Esthesioneuroblastoma Arising Within the Sphenoid Sinus

Jeffrey H. Spiegel, MD, Boston, MA
Miriam O'Leary, MD, Boston, MA (*Presenter*)

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize atypical presentations of esthesioneuroblastoma.

OBJECTIVES: 1) To review presentation and management of esthesioneuroblastoma arising outside of areas typically considered to have olfactory epithelium; and 2) to present the fifth reported case of esthesioneuroblastoma arising within the sphenoid sinus. **STUDY DESIGN:** Literature review and case report. **METHODS:** A literature review of atypical origins of esthesioneuroblastoma is provided along with a case report of an esthesioneuroblastoma originating wihin the sphenoid sinus. **RESULTS:** Esthesioneuroblastoma is a rare malignant tumor derived from neuroectoderm. The basal or reserve cells of olfactory epithelium which give rise to this tumor are typically found in the superior one-third of the nasal cavity, nasal septum, superior turbinates, and cribriform plate. Esthesioneuroblastoma often presents in late stages, when syptoms such as nasal obstruction, epistaxis, anosmia, headache, pain, excessive lacrimation, and visual changes manifest due to invasion or increased tumor size. In very rare situations, esthesioneuroblastoma can develop in areas where olfactory epithelium is not typically found. To date, only 4 cases of esthesioneuroblastoma originating in the sphenoid sinus have been reported. We report a review of atypical origins of esthesioneuroblastoma in addition to a case report of an 83 year old woman with a sphenoid mass extending into the left middle cranial fossa. Biopsy of this mass confirmed a diagnosis of esthesioneuroblastoma. **CONCLUSIONS:** We describe the fifth reported case of esthesioneuroblastoma arising within the sphenoid sinus and review the deiagnosis and managment of atypical presentations of these malignant tumors.

52. Experts' Perceptions of Head and Neck Cancer Risk Factors

Jeffrey H. Spiegel, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to 1) understand the relative risk value assigned to common potential risk factors for head and neck cancer as determined by experts in head and neck cancer; and 2) recognize common and rare risk factors for head and neck cancer.

OBJECTIVES: Several substances and habits are considered to be potential risk factors for head and neck cancer. Among these are tobacco (smoking and chewing), alcohol, khat, mate, betel nuts, reflux, and several others. Some of these are widely considered to be strong risk factors while others are less known and less well supported as true risks. We sought to determine the opinion of physicians who are expert in the management of head and neck cancer with regard to the relative severity for several potential risk factors. **STUDY DESIGN:** Survey of physician experts in head and neck cancer. **METHODS:** Surveys were sent to 309 physician fellows of the American Head and Neck Society in New York, California, and Texas. Physicians were asked to rate their opinion on how strongly 13 materials or habits pose a risk for the development of head and neck cancer. **RESULTS:** Physician opinions on how significantly several materials and habits contribute to a risk for head and neck cancer are presented. In many cases physician opinions correlated well with the literature, while in other cases the physicians rated some potential risk factors more or less strongly

than the literature would suggest. **Conclusions:** It is unlikely that scientifically sound prospective trials of the many potential risk factors for head and neck cancer will ever be conducted for both practical and ethical reasons. However, by evaluating the relative strength by which head and neck cancer experts rate potential risk factors we can identify specific materials and habits which require more study and more public awareness.

53. Management of Large Mandibular Cysts

Jeffrey H. Spiegel, MD, Boston, MA
Nagmeh Khodai, MHA MA, Boston, MA (*Presenter*)

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss management and reconstruction of large mandibular cysts.

Objectives: There are several causes of cystic mandible lesions and the literature describes many different treatment regimens. Depending upon the specific pathology, small cystic lesions of the mandible can be managed in a number of ways including enucleation, curettage, decompression, and mandibulectomy. However, large cystic lesions of the mandible present a unique treatment dilemma, as they can be visibly deforming and may significantly compromise the structural integrity of the mandible. In these cases the surgeon needs to consider not only the pathology of the lesion, but must also address postoperative aesthetic results and the ability of the mandible to withstand the forces of mastication. We review a case series of patients with large mandibular cysts and propose that regardless of pathology, large mandibular cysts are best managed by total excision and reconstruction. **Study Design:** Literature review and case series. **Methods:** A literature review on management of mandible cysts is presented as well as three patients with very large mandibular cysts of varying etiologies that were managed by mandibulectomy and fibula free flap reconstruction. An algorithm for the management of large mandible cysts is presented. **Results:** A literature review on management of mandible cysts is presented as well as three patients with very large mandibular cysts of varying etiologies that were managed by mandibulectomy and fibula free flap reconstruction. An algorithm for the management of large mandible cysts is presented. **Conclusions:** While small mandibular cysts may be managed with serial curettage, enucleation, or marginal mandibulectomy, larger lesions even when benign, require a more aggressive approach as considerations beyond the pathology of the lesion arise. Our algorithm demonstrates that evaluation of cyst wall location, size, and thickness should be considered and that complete excision with reconstruction (e.g. with fibula flap) may be the best management approach.

54. Analysis of Differential Gene Expression in Recurrence of Head and Neck Squamous Cell Carcinoma

Natalie P. Steele, MD, Bronx, NY
Margie Brandwein-Gensler, MD, Bronx, NY
Michael B. Prystowsky, MD PhD, Bronx, NY
Geoffrey Childs, PhD, Bronx, NY
Thomas J. Belbin, PhD, Bronx, NY
Richard V. Smith, MD, Bronx, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the importance of genetic analysis of head and neck cancer in order to improve clinical information, the use of microarrays for gene expression analysis, and the up or down regulation of specific genes associated with tumor recurrence.

Objectives: To assess gene expression changes associated with tumor recurrence in patients with head and neck squamous cell carcinoma. **Study Design:** Microarray analysis. **Methods:** Samples were obtained from surgical biopsies of head and neck primary and recurrent tumors in five patients. These cells were processed in order to obtain RNA which was subsequently hybridized to microarray chips containing 28,000 cDNA clones. Computer analysis was then used to measure gene expression changes associated with tumor recurrence. **Results:** Our analysis to categorize genes based on their expression patterns have identified 127 genes which consistently increased in expression between the initial primary tumor and recurrence of the disease. A similar list of 112 genes which decreased in expression in the recurrence was also identified. These genes span a variety of functional categories, and many of these genes we identified have not been previously described in relation to head and neck cancer. **Conclusions:** Progressive up or down regulation within a distinct pattern of gene expression may be associated with tumor recurrence in head and neck squamous cell carcinoma. The biologic significance of this is yet to be determined.

55. Floating the Uvula: An Intraoperative Method for Detecting Bifidity

Amar C. Suryadevara, MD, Syracuse, NY
Sherard A. Tatum, MD, Syracuse, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the impact of surface tension on mucosal surfaces and understand that routine oropharyngeal exams may overlook a bifid uvula secondary to this force.

Objectives: A bifid uvula, midline diastasis of the palatal muscles, and notching of the posterior hard palate have classically formed a triad diagnosing submucosal clefts. The uvula has thus served as a tool for clinicians to detect the earliest signs of clefting. In this case report, we discuss how mucosal lining may be held together by fairly large surface tension force, making it difficult to detect notching or a grossly bifid uvula. We demonstrate a simple intraoperative technique to easily overcome surface tension. **Study Design:** Case report: A nine year old female with a history of obstructive breathing and chronic nasal congestion secondary to enlarged adenoids and tonsils was taken to the operating room for adenotonsillectomy. **Methods:** Prior to starting the surgical procedure, a Davis mouth gag was placed and the uvula and palate were carefully examined. The uvula was then floated by placing normal saline irrigation into the oral cavity. We completed the procedure by performing partial adenoidectomy and tonsillectomy. **Results:** A previously undetected bifid uvula was found only after floating the uvula in normal saline solution. This changed our surgical approach from a complete to a partial adenoidectomy. **Conclusions:** A bifid uvula may be considered the earliest form of a cleft palate, and more importantly, it has been shown in the literature to be associated with other anomalies as submucosal cleft, hypoplastic eustachian tube orifice, and absence of the salpingopharyngeal folds. The intraoperative technique of floating the uvula helps to overcome surface tension and identify an otherwise missed bifid uvula.

56. A Simplified Technique for the Closure of Persistent Tracheocutaneous Fistulas

Ozlem E. Tulunay, MD, Detroit, MI
Ryan Bredeweg, Med Student, Detroit, MI
John R. Jacobs, MD*, Detroit, MI

Educational Objective: At the conclusion of this presentation, the participants should be able to compare the simplified technique presented for the closure of tracheocutaneous fistulas to present techniques and be able to apply this technique in their own practice.

Objectives: The increasing utilization of organ preservation protocols has led to increasing number of patients having had prolonged tracheal cannulation with subsequent development of persistent tracheocutaneous fistulas. We review the results of a simple technique for the closure of persistent tracheocutaneous fistulas in these often heavily radiated soft tissues. **Study Design:** Retrospective chart review. **Methods:** The bipedicle delayed flap closure was performed on 1 female and 10 male patients with a mean age of 64 years old. The technique incorporates a circular incision along the fistula tract inverted on itself with interrupted sutures and a bipedicle flap involving the subcutaneous tissues at the inferior border of the fistula. The inferior aspect of the wound is left for secondary healing, providing a site for temporary air leak, therefore, decompressing the suture line. **Results:** Of the 11 patients, 9 had satisfactory closure at the first attempt (82%) with 2 patients presenting with recurrence of the fistula. These patients underwent the same procedure with no further complications. **Conclusions:** We conclude that the technique provides a simple pro-

cedure with reliable results and minimal morbidity. It also eliminates the use of excessive tissue reinforcement and minimizes fibrosis over the fistula allowing reversal in case of cancer recurrence.

57. Aggressive Radiographic Features Associated With Nasal Polyposis

Dale A. Tylor, MD, Gainesville, FL
John W. Werning, MD, Gainesville, FL
Ilona M. Schmalfuss, MD, Gainesville, FL

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to describe the patterns of radiographic bone destruction that are associated with nasal polyposis.

OBJECTIVES: To characterize the alterations in skeletal anatomy of the lateral nasal wall, paranasal sinuses and anterior skull base associated with nasal polyposis. **STUDY DESIGN:** Retrospective case series. **METHODS:** Retrospective analysis of the perioperative medical records and presurgical computed tomography (CT) studies of 59 consecutive patients that required surgery for previously unoperated sinonasal polyposis. **RESULTS:** Bony dehiscence was evident in 31% of the patients secondary to either nasal polyposis (45%), mucocele formation (33%) or both entities combined (22%). Bony destruction associated with nasal polyposis was observed in the ethmoidal bony septae (67%), anterior skull base (42%), lateral nasal wall (25%) and medial orbital wall (8%). The CT scans of 34% of the patients demonstrated unilateral nasal polyposis. Bony dehiscences related to nasal polyposis were more frequently observed with unilateral involvement (58%) than with bilateral involvement (42%). **CONCLUSIONS:** Bony destruction of the anterior skull base and sinonasal region often occurs in patients with nasal polyposis in the absence of mucocele formation. Histopathologic assessment is necessary to verify the absence of occult malignancy whenever such aggressive radiographic features are present. Image guidance technology should be exploited to achieve complete tissue removal, and a specimen trap should be used to collect any tissue that is resected with a microdebrider so that thorough histopathologic evaluation is possible.

58. Recurrent Carotid Blowout After Endovascular Stenting

Dale A. Tylor, MDCM, Gainesville, FL
Douglas B. Villaret, MD, Gainesville, FL
John W. Werning, MD, Gainesville, FL

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participant will be able to demonstrate understanding of carotid blowout syndrome and to compare the pros and cons of surgical versus endovascular management of acute carotid blowout.

OBJECTIVES: To describe a case of carotid blowout managed with endovascular stent graft placement complicated with recurrent carotid blowout. To review carotid blowout syndrome and to compare the pros and cons of surgical versus endovascular management of acute carotid blowout. **STUDY DESIGN:** Case study and literature review. **METHODS:** We present a case of a 74 year old male with a history of squamous cell carcinoma of the base of tongue status postradiation, chemotherapy, and neck dissection who underwent endovascular stenting for acute carotid blowout. He developed recurrent hemorrhage 10 weeks later, necessitating ligation of the internal carotid artery. Literature review of complications of endovascular management of carotid blowout in head and neck patients is also performed. **RESULTS:** Endovascular management in this patient did control the hemorrhage initially, however within weeks the stent had extruded into a poorly healing wound bed, causing recurrent bleeding and need for additional treatment. Ultimately he required ligation of the internal carotid artery. **CONCLUSIONS:** Endovascular stenting offers an attractive nonsurgical option in the initial management of carotid blowout, however extrusion, thrombosis, infection, and recurrent hemorrhage may limit long-term effectiveness.

59. Papillary Thyroid Cancer Arising From a Thyroglossal Cyst During Pregnancy

Tulio A. Valdez, MD, Boston, MA
Hernan Goldsztein, MD, Boston, MA (*Presenter*)
Elie E. Rebeiz, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to adequately workup a carcinoma arising from a thyroglossal duct cyst in the general population and pregnant women in particular.

OBJECTIVES: The objective of this presentation is to review the current trend in the treatment of papillary thyroid carcinomas arising from the thyroglossal cyst and the management of thyroid cancer during pregnancy. **STUDY DESIGN:** Case report and literature review. **METHODS:** We present the case of a woman with papillary thyroid carcinoma arising from a thyroglossal cyst during pregnancy and review the current literature. **RESULTS:** Carcinomas are found in only 1% of thyroglossal cysts. Treatment options include a Sistrunk procedure followed by thyroid suppression. Depending on the degree of extension of the tumor, a more extensive local excision, neck dissection and/or total thyroidectomy should be considered. Radioactive iodine ablation should be considered in higher risk patients. Delaying surgery after the delivery should not alter the prognosis. **CONCLUSIONS:** Thyroid carcinoma may present in a thyroglossal duct cyst. Diagnostic imaging (ultrasound or MRI) is useful to assess the extent of disease and identify possible nodal metastasis. Treatment relies on surgical excision by means of a Sistrunk procedure with or without a total thyroidectomy depending on the extent of the disease. Radioactive iodine ablation may also be added depending on the stage of the disease. Pregnancy should not modify the treatment protocol which can be delayed until after the delivery.

60. Congenital Epulis: Diagnosis, Implications and Management in the Newborn

Adarsh Vasanth, MD, Boston, MA
Tulio A. Valdez, MD, Houston, TX
Clark A. Elliott, MD FRCSC, Boston, MA

EDUCATIONAL OBJECTIVE: This presentation describes congenital epulis and discusses its implications in the newborn. Participants should have a better understanding of how to make this diagnosis, allowing prompt treatment and preventing secondary complications.

OBJECTIVES: Congenital epulis is a rare tumor presenting in the newborn. It arises from the gingival mucosa, usually on the anterior alveolar ridge of the maxilla, and presents as a soft tissue mass protruding from the newborn's mouth. This lesion can interfere with respiration and feeding and can bleed secondary to trauma or manipulation. Epuloids are benign hamartomatous growths histologically similar to granular cell tumors (granular cell myoblastomas). Females present with this lesion eight to ten times more commonly than males. Recommended treatment is prompt simple surgical excision. There are no reports of recurrences, even with incomplete excision, and there appear to be no significant deleterious sequelae to dentoalveolar structures. We present a case of a newborn female presenting with a gingival mass on the anterior maxillary alveolar ridge. A provisional diagnosis of congenital epulis was made and the tumor was excised uneventfully. Histological examination showed granular cells identical to those seen in granular cell tumors (GCTs). The literature is reviewed to further describe the clinical features, implications and management of this rare tumor in the newborn. **STUDY DESIGN:** Case report. **METHODS:** We present a case of a newborn female presenting with a gingival mass on the anterior maxillary alveolar ridge. **RESULTS:** A provisional diagnosis of congenital epulis was made in this patient, and the tumor was excised uneventfully. Histological examination showed granular cells identical to those seen in granular cell tumors (GCTs). **CONCLUSIONS:** Although congenital Epuloids are nonmalignant, they can interfere with respiration and feeding. Some of these lesions are also known to bleed from digital trauma or manipulation. Prompt simple surgical resection is the current recommended treatment. There are no reports of recurrence (even with incomplete excision), and there is also evidence for spontaneous regression in a few cases. Wide or more radical surgical excision is therefore not recommended.

61. Airway Management During ACLS in a Patient With a Tracheostomy

Jared M. Wasserman, MD, Brooklyn, NY
Scott R. Horn, MD, Brooklyn, NY
Banu Lokhandwala, MD, Brooklyn, NY
Jessica W. Lim, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to demonstrate proficient management of tracheostomies during ACLS protocol.

OBJECTIVES: First responders to an ACLS "code" are typically not otolaryngologists. However, a significant number of those patients have a tracheostomy in place. Many who respond to such an event are not familiar with the mechanics and specifics of different tracheostomy tubes. This report describes a case where first responder inexperience with a tracheostomy lead to a poor outcome. **STUDY DESIGN:** Case report. **METHODS:** A descriptive case is presented which lead to the creation of a management algorithm. **RESULTS:** A 60 year old female with a stable, 3 week old metal tracheostomy tube underwent placement of a percutaneous endoscopic gastrostomy (PEG). The procedure and immediate recovery were uneventful. Two hours post-procedure, the patient was found unresponsive. ACLS/CPR protocol was started and a full code initiated. Attempts at mask and tube ventilation were unsuccessful in maintaining appropriate O2 levels. The otolaryngology service was consulted 10 minutes later. Upon arrival, the metal tracheostomy tube was successfully changed to a cuffed size 6 tracheostomy tube. The patient was successfully ventilated, however, she was pronounced dead. **CONCLUSIONS:** Because many patients who suffer a cardiorespiratory event have a tracheostomy in place, it is imperative for physicians, nurses, and staff who comprise the first responder team to have a working understanding of a tracheostomy. Otolaryngologists perform a significant number of these procedures. With our experience we can instruct other members of the healthcare team. Therefore, we offer a management algorithm to be followed during ACLS/CPR in a patient with a tracheostomy tube.

62. Idiopathic Multifocal Fibrosclerosis—Initial Submandibular Gland Manifestation

Jared M. Wasserman, MD, Brooklyn, NY
David M. Jakubowicz, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the systemic nature of idiopathic multifocal fibrosclerosis and its potential for head and neck involvement. Participants should be able to explain the pathophysiology of this entity and understand the combined medical and surgical roles in its management.

OBJECTIVES: Idiopathic multifocal fibrosclerosis is an uncommon fibroproliferative systemic disorder. Manifestations include retroperitoneal fibrosis, cholangitis, thyroiditis, and orbital pseudotumor; each with similar microscopic pathological characteristics. This report describes a case of submandibular gland enlargement with identical pathologic features. **STUDY DESIGN:** Case report and literature review. **METHODS:** A review of the common manifestations and pathologic findings of idiopathic multifocal fibrosclerosis. We intend to present pathological confirmation of submandibular gland involvement in a patient with other systemic manifestations. **RESULTS:** A 48 year old male with a history of ascending sclerosing cholangitis, pancreatitis, and retroperitoneal fibrosis was found to have asymptomatic enlargement of the right submandibular gland. Core needle biopsy of the gland showed replacement of normal salivary tissue with chronic fibrosis, consistent with earlier, distant specimens. **CONCLUSIONS:** This is the first report which pathologically confirms submandibular gland involvement in idiopathic multifocal fibrosclerosis.

63. Practice Patterns in the Recommendations to Patients on Air Travel With Otitis Media

Richard J. Wright, BA, Boston, MA
Rahul K. Shah, MD, Boston, MA
Stefan Zechowy, MD, Santa Rosa, CA
Nikolas H. Blevins, MD, Stanford, CA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss and compare the practice patterns among otolaryngologists and non-otolaryngologists regarding recommendations to patients on air travel with acute suppurative otitis media and serous otitis media.

OBJECTIVES: To assess physician practice patterns regarding recommendations to patients on air travel with acute suppurative otitis media (AOM) and serous otitis media (SOM). **STUDY DESIGN:** Prospective, randomized, survey study. **METHODS:** A survey was distributed to 800 physicians (600 non-otolaryngologists, 200 otolaryngologists). Respondents were asked to present their guidelines on when they would restrict a patient with AOM or SOM from air travel. **RESULTS:** Thirteen percent of surveys (103) were returned (19% family practitioners, 14% internists, 34% pediatricians, 33% otolaryngologists). Average years in practice were 16.8. There was no consensus among non-otolaryngologists on whether to recommend delay of flight for a patient with AOM (48% responding "never" or "rarely";52% responding "sometimes", "usually", or "always"). Among otolaryngologists, 75% recommended delaying travel with AOM under some circumstances. The majority of non-otolaryngologists (69%) do not restrict air flight in patients with SOM, while only 38% of responding otolaryngologists shared this view. For all physicians, conditions likely to result in a recommendation to restrict air travel included: age < 3 years, bilateral otitis media, history of otic barotrauma, and flights with multiple takeoffs and landings. **CONCLUSIONS:** There is no consensus among non-otolaryngologists regarding how to advise patients with otitis media regarding air travel. Otolaryngologists are more likely to recommend delay of flight for otitis media than non-otolaryngologists. We will discuss the implications of these findings to help define common practices for different specialists. There is clearly a need for further study regarding the risk of air travel in the setting of middle ear disease prior to defining guidelines for counseling.

64. Case Report: Base of Tongue Schwannoma

Yu-Lan Mary Ying, MD, Pittsburgh, PA
Lee A. Zimmer, MD PhD, Cincinnati, OH
Eugene N. Myers, MD*, Pittsburgh, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the differential diagnosis for tongue base lesions and compare the various surgical approaches, focusing on the advantage of suprahyoid pharyngotomy approach.

OBJECTIVES: Tongue base lesions have an extensive differential diagnosis. Both malignant and benign lesions can be present in the tongue. Various surgical approaches to the base of tongue have been described. The biology and pathology of schwannoma in the oral cavity are discussed. **STUDY DESIGN:** Case report. **METHODS:** One case study of a 26 year old woman with a schwannoma in the base of tongue removed through a suprahyoid pharyngotomy approach. **RESULTS:** See conclusions. **CONCLUSIONS:** Suprahyoid pharyngotomy approach is advantageous for complete excision of a mass in the base of tongue.

65. Synovial Chondromatosis of the Temporomandibular Joint Presenting as Parotid Enlargement

Hootan Zandifar, MD, Syracuse, NY
Robert M. Kellman, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to have a better understanding of synovial chondromatosis of the tem-

poromandibular joint.

Objectives: Synovial chondromatosis is a previously described tumor that rarely affects the temporomandibular joint (TMJ). We describe a case presentation of a 33 year old female with synovial chondromatosis of TMJ who presented with a parotid swelling. Study Design: Chart review case presentation. Methods: This is a chart review case presentation of a 33 year old patient who presented to the clinic with right parotid swelling. Results: This is a chart review case presentation of a 33 year old patient who presented to the clinic with right parotid swelling and stone in the right parotid gland via CT scan. MRI exam showed a normal parotid gland. However, a mass within the right TMJ was noted. Patient underwent subtemporal surgical resection of this mass. The final pathology was consistent with synovial chondromatosis. Conclusions: Seven month postoperatively patient continues to be free of disease as seen on follow-up CT scan.