EASTERN SECTION PROGRAM

FRIDAY, JANUARY 28, 2005

4:00 **Poster Setup - Birdcage Walk**

4:00 - 8:00 **Speaker Ready Room - Council Room**

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

6:00 - 7:30 **Exhibit Hall Open - Palladian Ballroom**

6:00- 7:30 **Welcome Reception - Palladian Ballroom**

SATURDAY, JANUARY 29, 2005

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

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

7:00 - 7:50 **Business Meeting (Members Only) - Congressional A & B**

7:00 4:00 **Exhibit Hall Open - Palladian Ballroom**

7:00 - 7:50 **Continental Breakfast With Exhibitors - Palladian Ballroom**

8:00- 11:00 **Spouse Hospitality - Classic A**

8:00 - 5:00 **Scientific Session - Diplomat Ballroom**

8:00 **Welcome and Introduction of Patrick E. Brookhouser, MD*, President, Omaha, NE**
Steven M. Parnes, MD*, Albany, NY

8:02 **Presidential Address**
Patrick E. Brookhouser, MD*, Omaha, NE

8:12 **Introduction of Guest of Honor, Eugene N. Myers, MD*, Pittsburgh PA**
Steven M. Parnes, MD*, Albany, NY

Guest of Honor Remarks

Head and Neck Session
Moderator: Robert M. Kellman, MD, Syracuse, NY

8:24 **First Prize - Resident Research Award**
Predictors of Thyroid Gland Invasion in Glottic Squamous Cell Carcinoma: A Clinicopathologic Correlation
Anthony M. Sparano, MD+, Philadelphia, PA
Rebecca Chernock, MD, Philadelphia, PA
Michael Feldman, MD PhD, Philadelphia, PA
Gregory S. Weinstein, MD*, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to engage in an informed decision making process to selectively perform thyroidectomy in the setting of squamous cell carcinoma of the glottis.

Objectives: This study examines preoperative clinical and intraoperative histopathologic characteristics that can be used to predict thyroid gland invasion in the setting of squamous cell carcinoma (SCC) of the glottis. **Study Design:** A retrospective analysis of 30 serially sectioned whole organ laryngectomies and accompanying clinical records were reviewed from the Gabriel Tucker collection. **Methods:** True vocal cord (TVC) fixation, cricoarytenoid joint invasion, subglottic extension (SGE) of tumor, patterns of laryngeal spread, and prior radiation were examined as univariate and multivariate correlates of thyroid gland invasion. **Results:** Twenty-three percent of thyroid gland specimens demonstrated SCC invasion. Five were T4 stage, 1 was T3 stage, 1 was T2 stage, and all demonstrated direct extension spread to the thyroid. Of these, all had a fixed ipsilateral TVC ($p = 0.003$) and SGE of tumor > 15mm ($p = 0.003$). Using multivariate analysis, SGE of tumor and TVC fixation contribute independently as correlates of thyroid gland invasion. Prior radiation of the larynx did not correlate with thyroid gland invasion and did not significantly influence the predictive capacity of these variables. Tumors invading the thyroid gland also invaded the cricothyroid membrane (100%), anterior commissure (100%), laryngeal ventricle (100%), and thyroid cartilage (86%). **Conclusions:** Preoperative assessment of TVC mobility and extent of SGE are significant correlates of thyroid gland invasion by SCC of the glottis. Distinct patterns of laryngeal spread are associated with thyroid gland invasion. Prophylactic thyroid lobectomy with isthmusectomy is indicated for glottic SCC in the preoperative setting of a fixed TVC and SGE >15mm. Additional study correlating patterns of laryngeal spread with thyroid

gland invasion will add to these data in determining when to selectively perform thyroidectomy in this setting.

8:32 **SECOND PRIZE - RESIDENT RESEARCH AWARD**
Effectiveness of Chemotherapy and Radiotherapy in Sterilizing Cervical Nodal Disease in Squamous Cell Carcinoma of the Head and Neck
Michael G. Moore, MD+, Boston, MA
Neil Bhattacharyya, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the therapeutic impact of radiotherapy and chemotherapy on cervical metastasis for squamous cell carcinoma of the head and neck.

OBJECTIVES: Determine effects of chemoradiotherapy on nodal disease in squamous cell carcinoma of the head and neck. **STUDY DESIGN:** Matched case-control study. **METHODS:** A series of neck dissections (ND) done for SCCA of the head and neck was retrospectively reviewed. Three groups were identified: 1) planned ND after chemoradiotherapy, 2) ND after radiotherapy alone, and 3) ND prior to adjuvant therapy (control group). Demographic data, TNM stage and pathology were reviewed. Total number of nodes recovered, number of positive nodes and extracapsular spread (ECS) were recorded. To each patient in the chemoradiotherapy group, a randomly matched dissection in the control group was identified, matching for preoperative N stage and ND type (comprehensive, supraomohyoid or selective). Comparisons were conducted for total nodes, presence of positive nodes and ECS. Similar matched comparisons were conducted for ND after radiotherapy alone versus the control group. **RESULTS:** Among 104 qualifying post chemoradiotherapy NDs, 97 cases (N0=10 cases, N1=9, N2=69, and N3=9) were matched to control NDs without previous therapy. Total nodal yield was not statistically different between chemoradiotherapy and control groups (23.5 versus 23.0 nodes, respectively, p=0.77). Positive nodal yield was significantly lower for chemoradiotherapy versus control dissections (0.76 versus 3.0, p<0.001). 24.7% of chemoradiotherapy dissections recovered positive nodes versus 68.0% of the control group (p<0.001). ECS was identified in 13.4% of the chemoradiotherapy group versus 32.0% of the control group (P=0.002). Radiotherapy alone produced less pronounced nodal reductions. **CONCLUSIONS:** Chemoradiotherapy substantially decreases nodal disease and ECS in SCCA. However, a significant percentage of necks contain positive nodes after therapy, meriting consideration for ND.

8:40 **Compounds From Cruciferous Vegetables as Novel Antithyroid Cancer Agents**
YuShan L. Chang, BA, Valhalla, NY
Yuan G. Chen, PhD, Valhalla, NY
Kiranmayi Tadi, PhD, Valhalla, NY
Steven D. Schaefer, MD*, New York, NY
Stimson P. Schantz, MD*, Valhalla, NY
Raj K. Tiwari, PhD, Valhalla, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the antiproliferative effects of indole-3-carbinol and diindolylmethane (DIM) on thyroid carcinoma and demonstrate an appreciation for the future use of DIM in clinical trials.

OBJECTIVES: Cruciferous vegetables have significant antiproliferative activity in thyroid that has not been documented. We have been studying the antithyroid cancer (CaT) activity of indole-3-carbinol (I3C) found in cruciferous vegetables and its acid catalyzed dimer, diindolylmethane (DIM). **STUDY DESIGN:** In this study, we tested the effect of I3C and DIM for anti-CaT effects using four different cell lines representative of papillary cancer (8505-C and B-CPAP) and follicular carcinoma of the thyroid (ML-1 and CGTHW-1). **METHODS:** Cell survival and IC50 values were calculated using the XTT assay and the Trypan blue exclusion test. Apoptosis was measured by ELISA and protein levels were estimated by western blotting. **RESULTS:** Both I3C and DIM showed significant anti-CaT effects with IC50 values that correlated well with cell doubling time in culture. After 48 hours of treatment, the IC50 values for I3C in all four cell lines ranged between 100-500¼M. In contrast, the IC50 values for DIM were between 10-100¼M and the XTT assay revealed less than 15% of cell survival in each of the four cell lines. DIM induced significant apoptosis (as measured by ELISA) in some cases (CGTHW-1, ML-1) over 3-4 times that seen with I3C. Western blotting revealed that the phosphorylated Akt signal transduction pathway was targeted by both I3C and DIM. PI3-K and p-Akt were markedly down regulated by in ML-1, CGTHW-1 and B-CPAP after treatment. **CONCLUSIONS:** These experiments identify DIM as a novel constituent from cruciferous vegetables that has anti-CaT activity and whose stability and pharmacokinetics in human subjects needs study.

8:48 **Discussion**

PEDIATRIC SESSION
MODERATOR: GLENN C. ISAACSON, MD*, PHILADELPHIA, PA

8:55 **Effectiveness of Adenotonsillectomy in the Resolution of Nocturnal Enuresis Secondary to Obstructive Sleep Apnea**
Suzanne Basha, MD, Philadelphia, PA
Kevin H. Ende, MD, Philadelphia, PA
Wasyl Szeremeta, MD MBA, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the relationship between nocturnal enuresis and obstructive sleep apnea.

OBJECTIVES: The purpose of this study is to investigate the relationship between obstructive sleep apnea (OSA) syndrome and nocturnal enuresis (NE) in patients who required tonsillectomy and/or adenoidectomy. **STUDY DESIGN:** Retrospective chart review with prospective collection of data. **METHODS:** All charts of patients ages 1-18 years that had tonsillectomy or adenotonsillectomy between 1/1/01 and 7/31/03 were reviewed for presence of nocturnal enuresis and indication for surgery. Those patients with a positive history of NE and OSA were surveyed to determine if there was no change in enuresis, decreased enuresis or no enuresis postoperatively. **RESULTS:** 180 children who had undergone tonsillectomy or adenotonsillectomy had data regarding enuresis available in their charts. 60 of these 180 children (33.3%) had a positive history of enuresis. Of the 60 children with a positive history, 28 (46.7%) were female and 32 (53.3%) were male. 59 of 60 children (98.3%) had OSA and 1 of 60 (1.7%) had nasal obstruction. Among the children's parents who were contacted postoperatively 65.4% were free of enuresis, 30.8% had a decrease in enuresis and 3.8% had no change in enuresis. t-test showed a statistically significant difference—alpha < 0.5. **CONCLUSIONS:** NE is a relatively common finding in children with OSA symptoms. Nocturnal enuresis resolves or markedly improves in the vast majority of these patients postoperatively. It is rare for enuresis not to resolve in a patient with both OSA and NE after tonsillectomy and adenoidectomy.

9:03 **Conservative Management of Pediatric Petrous Apex Cholesterol Granuloma**
Anne E. Getz, MD, Philadelphia, PA
Vincent Callanan, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the natural history of petrous apex granulomas and the conservative management of such lesions. The reader should also be aware of a case of a spontaneously resolving petrous apex granuloma.

OBJECTIVES: To discuss the natural history and conservative management of pediatric petrous apex cholesterol granulomas. **STUDY DESIGN:** Case series. **METHODS:** Retrospective chart review of three pediatric patients diagnosed with petrous apex cholesterol granulomas. **RESULTS:** We describe a series of three patients, ages 11 to 16 years old, in which petrous apex cholesterol granulomas were managed conservatively. CT imaging of the skull base was used to diagnose and periodically reevaluate the patients. Follow-up ranged from one to six years. Two lesions demonstrated no growth. Spontaneous resolution occurred in one case. This is the first report of a spontaneously resolving petrous apex cholesterol granuloma. Surgery of the petrous apex carries significant potential risks; depending on the approach used, these risks include potential damage to the carotid artery, jugular bulb, cochlea, facial nerve, optic nerve and temporal lobe. Our patients were all managed conservatively and experienced no untoward sequelae. **CONCLUSIONS:** Pediatric petrous apex cholesterol granulomas in our experience may spontaneously resolve. Conservative management with serial CT imaging is a safe method of following pediatric patients with petrous apex cholesterol granulomas.

9:11 Inside-Out Tonsillectomy—A Minimally Invasive Technique for Recurrent Sore Throat
Glenn C. Isaacson, MD*, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should understand the rationale, surgical technique and indications for inside-out tonsillectomy.

OBJECTIVES: Intracapsular tonsillectomy shows promise for minimizing post-operative pain and bleeding risk, but is advocated only for the treatment of tonsillar hypertrophy. Extracapsular (complete) tonsillectomy is the only operation shown to decrease the incidence of recurrent sore throat and to prevent peritonsillar abscess. Using bipolar electrosurgical scissors it is possible to extend the intracapsular tonsillectomy technique to achieve complete tonsillar removal without the sacrifice of surrounding tissues. **STUDY DESIGN:** Observational. **METHODS:** Debakey forceps replace the tonsil tenaculum for retraction. The mucosa medial to the anterior tonsillar pillar is incised with bipolar electrosurgical scissors. Dissection is carried through the substance of the tonsil excising approximately 90% of its bulk. Suction electrocautery is used to desiccate and remove the remaining tonsil. **RESULTS:** Average surgical time is 8 minutes. There is no intraoperative blood loss. The surface area of the surgical defect is decreased by 50%. Post-operative pain and analgesic use are decreased. **CONCLUSIONS:** Dissecting through, rather than around the tonsil, complete surgical excision is possible while creating the smallest possible wound.

9:19 Discussion

9:27 Break/Poster Viewing/Visit With Exhibitors

GENERAL & SINONASAL SESSION
MODERATOR: MICHAEL SETZEN, MD, NEW YORK, NY

9:50 2004 TRIOLOGICAL SOCIETY THESIS
Endoscopic Percutaneous Dilatational Tracheotomy: A Prospective Evaluation of 500 Consecutive Cases
Karen M. Kost, MD*, Montreal, PQ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, participants should 1) understand the indications and contraindications of percutaneous tracheotomy; 2) understand how percutaneous tracheotomy compares to open surgical tracheotomy; and 3) appreciate the importance of endoscopic guidance.

OBJECTIVES: An evaluation of 500 adult, intubated, intensive care unit patients undergoing endoscopic percutaneous tracheotomy using the multiple and single dilator techniques was conducted to assess the feasibility and safety of the procedure as it compares with surgical tracheotomy (ST). Endoscopy was used in all cases and evaluated as an added safety measure in reducing complications. **STUDY DESIGN:** A prospective evaluation of endoscopic percutaneous dilatational tracheotomy in 500 consecutive adult, intubated intensive care unit patients. **METHODS:** Between 1990 and 2003, endoscopically-guided percutaneous dilatational tracheotomy (PDT) was performed in 500 consecutive adult, intubated patients in the intensive care units (ICU) of three tertiary care adult hospitals. The first 191 patients underwent PDT using the Ciaglia Percutaneous Tracheostomy Introducer Kit (Cook Critical Care Inc., Bloomington, Indiana) while in the remaining 309 patients the Ciaglia Blue Rhino Single Dilator Kit (Cook Critical Care Inc., Bloomington, Indiana) was used. The procedure was contraindicated in the following situations: 1) children, 2) unprotected airway, 3) emergencies, 4) the presence of a midline neck mass, 5) inability to palpate the cricoid cartilage, and 6) uncorrectable coagulopathy. The following parameters were recorded preoperatively: age, sex, diagnosis, American Society of Anesthesia (ASA) Class, Body Mass Index (BMI), and number of days intubated. Recorded haematological parameters included haemoglobin (Hgb), platelets, prothrombin time (PT), partial thromboplastin time (PTT), and the international normalized ratio (INR) since it became available in 1998. All patients were ventilated on 100% oxygen and vital signs were continuously monitored. Tracheotomy was carried out under continuous endoscopic guidance using a series of graduated dilators in the first 191 cases, and a single, tapered dilator in the remaining 309 patients. The pre-operative data on each patient, along with the type of dilator used, the size of the tube, the intraoperative and postoperative complications, and blood loss information were recorded prospectively and maintained in a computer spreadsheet. Univariate analyses were used in each group separately for each type of dilator to assess the risks of a complication within subgroups defined by each parameter/characteristic, and the statistical significance assessed with a chi-square test, or Fisher's exact test. **RESULTS:** The total complication rate was 9.2% (13.6% in the multiple dilator group, and 6.5% in the single dilator group), with over half of these considered minor. Overall, the two most common complications were oxygen desaturation in 14 cases, and bleeding, in 12 cases. The absence of serious complications such as pneumothorax and pneumomediastinum are attributable to the use of bronchoscopy. There was no significant association between the rate of complications and age, gender, ASA, weeks intubated, tracheostomy tube size, Hgb levels, platelets, PT, PTT, or INR. There was a statistically significant relationship between experience and the likelihood of complications in the multiple dilator group ($p < .0001$), with a higher rate of complications in the first 30 patients (40%) compared with 8.7% in the remaining 161 patients. This relationship did not exist for the first 30 patients in the single dilator group. Patients with a BMI of ≥30 experienced a significantly greater (p value<.05) number of complications (15%) compared with an 8% complication rate in patients with a BMI <30. This risk was even more significant for patients with a BMI ≥30 who were also in ASA class 4 (11/56 or 20%) ($p < .02$). **CONCLUSIONS:** Endoscopic PDT is associated with a low complication rate and is at least as safe as surgical tracheotomy in the ICU setting. Bronchoscopy significantly decreases the incidence of complications and should be used routinely. While embraced by critical care physicians, endoscopic PDT has been infrequently performed by otolaryngologists. As the airway experts, otolaryngologists are in the best position to learn and teach the procedure as it should be done.

10:00 The Role of Intrathecal Fluorescein in Endoscopic Anterior Skull Base Surgery
Vijay K. Anand, MD*, New York, NY
David Hiltzik, MD, New York, NY
Neil P. Shah, MS, New York, NY
Ashutosh Kacker, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to use intrathecal fluorescein for closure of CSF leaks after endoscopic skull base surgery.

OBJECTIVES: To assess the safety and efficacy of intraoperative role of fluorescein dye in the identification and localization of cerebrospinal fluid (CSF) leaks in anterior skull base defects and the surgical closure. **STUDY DESIGN:** Retrospective chart review of patients who have undergone endoscopic skull base surgery and closure of CSF leaks as the dominant symptom at a tertiary care teaching center. **METHODS:** Chart review of thirty-eight consecutive CSF leak repairs and parasellar tumor resec-

tions in which fluorescein dye was used intraoperatively to identify the presence of CSF leak. Demographics, safety of the dye, and the effective localization of the leak will be reviewed. The dye was injected intravenously and intrathecally during surgery for the localization procedures. **Results:** Fluorescein was used intraoperatively, intrathecally for 12 patients after parasellar tumor resection and defect repair. In 26 patients, with either spontaneous or iatrogenic CSF leaks, 26/26 (100%) of the leaks were localized, 6/26 patients (23%) had recurrent leaks after localization and repair. Four patients (15%) required secondary closures and two (8%) required ventricular peritoneal (VP) shunts secondary to a diagnosis of increased intracranial hypertension. There were no fluorescein related complications. **Conclusions:** Intrathecal fluorescein is a safe and useful intraoperative tool to identify and localize the presence of CSF leaks and the integrity of their repairs after endoscopic anterior skull base surgery.

10:08 Kaposi's Sarcoma of an Intraparotid Lymph Node Leading to a Diagnosis of HIV
Natalie P. Steele, MD, New York, NY
Roy B. Sessions, MD*, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the importance of complete history taking in patients with parotid masses and discuss the differential diagnosis of parotid masses, including Kaposi's sarcoma.

Objectives: Kaposi's sarcoma is one of the most common malignancies in HIV infected patients and is an acquired immunodeficiency syndrome defining tumor, but is rarely seen in the major salivary glands. Although the differential diagnoses of discrete salivary gland masses in HIV positive patients still includes the benign and malignant neoplasms which occur in immunocompetent patients, intraparotid Kaposi's sarcoma must be considered in this unique population. We present a unique case in which an otherwise healthy patient presented with bilateral parotid masses. A diagnosis of intraparotid Kaposi's sarcoma was made on histologic examination of the surgical specimen. The patient subsequently tested positive for HIV. **Study Design:** Case report. **Methods:** A 58 year old male presented with bilateral parotid masses of approximately three years' duration. The patient noticed recent increase in size of the right parotid mass. The patient's presentation, imaging workup and final diagnosis of Kaposi's sarcoma will be discussed. **Results:** An MRI scan showed two right parotid lesions, both of which were hyperintense on T2 weighted images and hypointense on T1 weighted images. A left parotid mass with similar imaging characteristics was also noted. The patient underwent a right superficial parotidectomy. Permanent sections revealed spindle shaped cells with extravasated erythrocytes typical of Kaposi's sarcoma. Subsequent discussion of the results with the patient elucidated prior HIV risk factors. The patient later tested positive for HIV. **Conclusions:** Although Kaposi's sarcoma is the most common malignancy affecting AIDS patients and is known to occur in the skin and mucosa of the head and neck region, there are few case reports of Kaposi's sarcoma arising within the salivary glands. Most previous case reports have described salivary gland Kaposi's sarcoma in HIV positive patients, but there are a few reports in which patients did not have documented immunocompromise. Surgical excision of the mass is recommended, however, treatment of the underlying HIV disease with antiretroviral therapy is a necessary adjuvant therapy. The patient presented here is relatively unique since the diagnosis of intraparotid Kaposi's sarcoma led to a new diagnosis of HIV. This interesting case reiterates the need for complete history taking, and suggests that, although rare, Kaposi's sarcoma should be included in the differential diagnosis of salivary gland tumors in the appropriate patient population.

10:16 Discussion

Otology Session
Moderator: Samuel H. Selesnick, MD*, New York, NY

10:23 2004 Triological Society Thesis
A Model for Cochlear Implant Electrode Insertion and Force Evaluation: Results with a New Electrode Design and Insertion Technique
J. Thomas Roland, Jr., MD*, New York, NY

Educational Objective: At the conclusion of this presentation, participants should be able to understand the forces that are responsible for intra-cochlear trauma during cochlear implantation and the design and functioning of a new cochlear implant electrode.

Objectives: This study has the specific aim of evaluating the insertion characteristics of a new cochlear implant electrode. Techniques for evaluation of fluoroscopic real time mechanical insertion dynamics, histologic electrode position and trauma results, hydraulic force and mechanical insertion forces are presented. Additionally this study should serve to present a novel model for cochlear implant electrode insertion evaluations. **Study Design:** Prospective analysis using a series of analytical techniques. **Methods:** All studies are conducted in fixed cadaveric temporal bones. Real time fluoroscopic insertion evaluations, histologic evaluations for trauma and electrode position in embedded bones, hydraulic measures and mechanical intra-cochlear force measurements are conducted with a current and new electrode. **Results:** The Contour Advance electrode provides a more reliable and less traumatic insertion when deployed with the Advance Off Stylet technique. This is largely due to a reduction in intra-cochlear outer wall force generation. Fluoroscopic and histologic analysis reveals a smooth insertion without reliance on cochlear outer wall contact. No hydraulic forces were detected when measured from the superior semi-circular canal ampulla. **Conclusions:** The model used for this study provides valuable information to cochlear implant surgeons and design engineers. The Contour Advance electrode, inserted with the Advance Off Stylet technique, represents an improvement over the Contour electrode inserted with the standard insertion technique.

10:33 Cochlear Implantation in Cochlear Otosclerosis
Andrew H. Marshall, MBBS, Toronto, ON Canada
Sean P. Symons, MD, Toronto, ON Canada
Jodi M. Ostroff, PhD, Toronto, ON Canada
David B. Shipp, PhD, Toronto, ON Canada
Joseph M. Chen, MD, Toronto, ON Canada
Julian M. Nedzelski, MD*, Toronto, ON Canada

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize and grade the radiological appearance of advanced otosclerosis and to appreciate the surgical and programming issues involved in cochlear implantation in this group of patients.

Objectives: To correlate implant performance in cochlear otosclerosis to: 1) matched controls; 2) severity of otic capsule involvement; 3) prior ipsilateral surgery; and 4) programming issues. **Study Design:** Retrospective case controlled study. **Methods:** Study cohort consisted of 30 individuals. Diagnosis was based on history ear surgery [stapedectomy (n=18) or fenestration (n=2)] and/or pathognomonic radiological findings. High resolution computed tomography images of the temporal bones were assessed blindly by a neuroradiologist and graded for the extent of otosclerosis on a scale modified from Valvassori. Operative records were reviewed in detail. Performance, programming visits as well as the number of electrode deactivations at one year post implantation were determined for the study cohort and compared to a group of matched controls. A within group comparison correlating severity of otosclerosis to the above was carried out. **Results:** Implant performance in those individuals with cochlear otosclerosis was not significantly different from those without (p=0.45). Previous surgery on the side of implantation did not alter performance (p=0.39). Programming difficulty as reflected in the number of visits (mean 10 in both groups) and electrode deactivation for sound quality reasons were comparable (5 in otosclerotics, 4 in controls). Deactivation for facial nerve stimulation occurred exclusively in otosclerotics (n=5). A correlation between the radiological extent of otosclerosis and performance/operative difficulty will be presented in detail. **Conclusions:** Individuals afflicted with severe otosclerosis who are considering cochlear implantation can realistically be counseled to expect similar benefit to those without, regardless of whether prior surgery occurred on the side of implantation or sever-

ity of otic capsule involvement.

10:41 Stapedectomy in Training Institutions—A Persistent Controversy
Kristofer E. Anderson, MD, Farmington, CT
Jeffrey D. Spiro, MD*, Farmington, CT
Gerald Leonard, MD, Farmington, CT

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the divergent views on resident training in stapedectomy and the pressure the paucity of otological cases is having on teaching institutions and community practitioners.

OBJECTIVES: The safety and efficacy of universal resident training in stapedectomy has been a controversy for over two decades. Many institutions have reviewed their experience and expressed opinions supporting universal training or promoting subspecialty tracking and training restriction. This study reviews the experience with resident stapedectomy in our training program. **STUDY DESIGN:** Retrospective chart review and alumni survey. **METHODS:** Review of resident stapedectomy results over the last 15 years with comparison to the literature. Survey of our graduates for the same period on their present stapedectomy and otologic caseloads. **RESULTS:** We reviewed 65 primary stapedectomies over a 15 year period in which our residents achieved closure of the air-bone gap to < 10 dB in 83% of cases (< 20 dB in 97%). Success rates in the literature range from 62 to 96%. Experts report closure < 10 dB in over 90% of cases. Our residents average 6.4 stapedectomies as surgeons. Our complication rate of 23% is equivalent to that in the resident literature. Our graduate survey revealed that 48% are no longer performing stapedectomy and only 53% perform > 10 major otologic cases per year. Low caseloads preventing maintenance of surgical competence was the primary reason cited for not performing stapedectomy. **CONCLUSIONS:** Our resident stapedectomy results, though equivalent to prior studies, still do not reach an expert's level. Despite this, we support structured universal resident training rather than training restriction and subspecialty tracking. The paucity of major otological cases, including stapedectomy, continues to compromise acquisition of otological skills for both training institutions and community practitioners.

10:49 Discussion

10:56 PANEL: COMPLICATIONS OF SINUS SURGERY
MODERATOR: Ralph B. Metson, MD*, Boston, MA
PANELISTS: Martin Y. Desrosiers, MD, Montreal, PQ, Canada
Joseph B. Jacobs, MD*, New York, NY
David W. Kennedy, MD*, Philadelphia, PA
Raj Sindwani, MD, St. Louis, MO

11:55 Lunch - Empire Ballroom

LARYNGOLOGY SESSION
MODERATOR: STEVEN M. ZEITELS, MD*, BOSTON, MA

1:15 Office Based Treatment of Adult Papillomatosis with Intralesional Cidofovir
Peak Woo, MD*, New York, NY
Andres Lanas, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand that office based injection of cidofovir can reduce the size of laryngeal papillomas and reduce the rate of repeated laryngoscopies for adult respiratory papillomatosis.

OBJECTIVES: Repeated operative laryngoscopy is the current treatment for adult recurrent respiratory papillomatosis (RRP). Office based injection of cidofovir may be a treatment alternative. The purpose of this study is to evaluate office based injection of cidofovir in patients with RRP. **STUDY DESIGN:** A retrospective study was conducted on the results of seventeen adult patients with RRP (2001 to 2003) treated by office cidofovir injections. They underwent a protocol of 3 intralesional cidofovir injections administered monthly: the first injection was applied under general anesthesia along with laser surgery; the two others were done under local anesthesia in the office. **METHODS:** Analyses were based on the charts, surgical reports, and videostroboscopies obtained from each patient visit. The severity of laryngeal involvement was determined by using the staging system described by Derkay. The number of surgeries (return to operating room)/year (ROR index)) was calculated before and after injections. **RESULTS:** All patients had glottic involvement, 7 patients had also supraglottic involvement. The initial score of severity decreased from 10.3 to 2.2 at the end of the protocol ($p<0.01$). A disease free condition was obtained in 41% of patients. The ROR index decreased from 0.64 pre-protocol to 0.31 post-protocol. The global follow-up was 6.8 months. There were no complications secondary to office injections. **CONCLUSIONS:** Serial intralesional cidofovir injection under local anesthesia may reduce the number of repeated laryngoscopy under general anesthesia in the management of adult patients with RRP.

1:24 Technical Characteristics of a New CO2 Laser Fiber Guide
Anand K. Devaiah, MD, Boston, MA
Urmen D. Upadhyay, BS, Newton, MA
Zimmern Wang, MD, Boston, MA
Stanley M. Shapshay, MD*, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to demonstrate a basic understanding of the use of a new type of CO2 laser fiber guide and tissue effects from its use.

OBJECTIVES: The CO2 laser is a powerful tool for the otolaryngologist. A limitation is that it requires a straight path for use which can make areas with difficult exposure harder to treat. A new CO2 laser fiber guide (LFG) with inert gas cooling port was tested for improving this aspect. **STUDY DESIGN:** Experimental in vivo and in vitro animal models were used. **METHODS:** In vitro experiments with porcine skin were conducted to determine laser tissue thermal interaction with the use of 0.3mm and 0.5mm spot size. In vivo experiments using a canine model were performed to test the LFG delivery under operative conditions. **RESULTS:** With in vitro experiments firing at 3 and 5 watts of energy under different conditions produced similar depth of cutting and surrounding thermal changes. With in vivo experiments, CW and pulsed laser treatment with the LFG were tested on the canine larynx (arytenoid, true vocal cord, epiglottis) or buccal mucosa to make incisions. No antibiotics or steroids were given either perioperatively or post-op. The LFG was easy to manipulate in directing CO2 laser energy. Incisions at angles were made easily without adjusting exposure. The animals were examined endoscopically on post-op day 7 prior to sacrifice. There was minimal residual tissue injury and no granulation tissue on gross exam. Histologic exam of the treated laryngeal subsites and buccal mucosa was performed. There was minimal inflammation and nearly every subsite showed robust epithelium. **CONCLUSIONS:** Our experiments demonstrated great utility of the delivery system, comparable in vitro cutting changes, and rapid healing of tissue in vivo.

1:33 Photochemical Tissue Bonding in the Larynx
Ramon A. Franco Jr., MD, Boston, MA

Jayme A. Dowdall, BA, Boston, MA
Bobby W. Redmond, PhD, Boston, MA
Irene E. Kochevar, PhD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the process of photochemical tissue bonding and discuss the potential uses of this technology in laryngology.

OBJECTIVES: To evaluate photochemical tissue bonding (PTB) as a sutureless, non-thermal method to achieve bonding of epithelial flaps following cold excision of benign lesions from the vocal folds. PTB is an emerging tissue repair technique combining visible light and photosensitizing dyes to produce collagen cross-links with dramatically less associated tissue damage than thermal welding. **STUDY DESIGN:** In our ex-vivo pilot study, we use the dye rose bengal (RB) and a 532nm argon laser to achieve tissue bonding. **METHODS:** A microflap procedure is performed on the supero-medial surface of the vocal fold mucosa. RB is subsequently applied and irradiated with visible light to produce bonding of the epithelial flaps. The experimental site is then subjected to compressed air to assess bonding strength. **RESULTS:** Bonding is achieved with .75%RB and 300J/mm2. **CONCLUSIONS:** This pilot study elucidates parameters for vocal fold PTB, setting the foundation for further exploration of this technique with in-vivo models.

1:42 Use of Cymetra Injections to Treat Leakage Around Tracheoesophageal Puncture in Laryngectomy Patients
Meena Seshamani, PhD, Philadelphia, PA
Sandra Schwartz, MS, Philadelphia, PA
Cesar Ruiz, MS, Philadelphia, PA
Natasha Mirza, MD, Philadelphia, PA (*Presenter*)

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the different options available for treating leakage around a voice prosthesis in patients with tracheoesophageal puncture. This presentation describes a new method of treatment using injections of Cymetra around the leaking fistula.

OBJECTIVES: Tracheoesophageal puncture is a commonly used method of voice restoration following total laryngectomy. However, leakage around the prosthesis can occur in up to 42% of patients. Several procedures have been used to treat persistent leakage, with varying degrees of complexity and efficacy. This study is the first to report the use of Cymetra (micronized Alloderm, LifeCell) injections as a simple office procedure to treat leakage around the TEP site. **STUDY DESIGN:** Case series. **METHODS:** We identified 6 patients who underwent total laryngectomy with postoperative radiation for squamous cell carcinoma of the larynx and either primary or secondary tracheoesophageal puncture. Four of these patients subsequently developed leakage around the voice prosthesis that did not respond to downsizing of the prosthesis, and 2 of these patients opted for removal of the voice prosthesis but were unable to obtain closure of the fistula. All patients were injected with Cymetra, and were followed for up to 6 months for evidence of leakage recurrence. **RESULTS:** Of the 6 patients studied, 4 had no further leakage following one Cymetra procedure. One patient required two procedures two weeks apart to achieve symptom resolution, and one patient developed a peristomal infection with wound breakdown (unrelated to the injection procedure) and continued fistula leakage. **CONCLUSIONS:** The injection of Cymetra around a tracheoesophageal fistula is a simple, effective way to treat leakage around a voice prosthesis. Further studies with larger patient populations and longer follow-up are needed to ascertain the exact role that this treatment may play in post-laryngectomy patients with voice prostheses.

1:51 Discussion

1:58 Introduction of Keynote Speaker, James J. Barba, Albany, NY
Steven Parnes, MD*, Albany, NY

KEYNOTE ADDRESS: REFLECTIONS FROM TEN YEARS AT THE HELM: HOW TO SAVE AMERICAN HEALTH CARE
James J. Barba, Albany, NY

BRONCHOESOPHAGOLOGY SESSION
MODERATOR: JASON MOUZAKES, MD, ALBANY, NY

2:20 2004 TRIOLOGICAL SOCIETY THESIS
The Biology and Management of Subglottic Hemangioma: Past, Present, Future
Reza Rahbar, DMD MD*, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, participants should be able to understand the natural history of subglottic hemangioma treatment options.

OBJECTIVES: Objectives were 1) to review the presentation, natural history, and management of subglottic hemangioma; 2) to assess the affect of five variables (age, gender, degree of subglottic narrowing, location and extent of subglottic hemangioma, and lack or presence of other hemangioma) and the outcome of six different treatment modalities (conservative monitoring, corticosteroid, laser surgery, tracheotomy, laryngotracheoplasty, and interferon) in the management of subglottic hemangioma; and 3) to present specific guidelines to help determine the best possible treatment modality at the time of initial presentation. **STUDY DESIGN:** Retrospective review in the setting of three tertiary care pediatric medical centers. **METHODS:** Methods included 1) extensive review of the literature; 2) a systematic review with respect to age, gender, presentation, associated medical problems, location and degree of subglottic narrowing, initial treatment, need for subsequent treatments, outcome, complications, and prognosis; and 3) statistical analysis to determine the effect of five variables (age, gender, degree of subglottic narrowing, location and extent of subglottic hemangioma, and lack or presence of other hemangioma) and the outcome of six different treatment modalities (conservative monitoring, corticosteroid, laser surgery, tracheotomy, laryngotracheoplasty, and interferon). **RESULTS:** In all, 116 patients with a mean age of 4.7 months were treated. The most common location of subglottic hemangioma was the left side. The range of subglottic narrowing was 10% to 99% (mean percentage, 65%). Twenty-six patients (22%) were managed with a single treatment modality, which included conservative monitoring (n = 13), corticosteroid (n = 11), and tracheotomy (n = 2). Ninety patients (78%) required multimodality treatments. Overall, the treatments included conservative monitoring (n = 13), corticosteroid (n = 100), tracheotomy (n = 32), CO_2 laser (n = 66), interferon (n = 5), and laryngotracheoplasty (n = 25). Complication rates included the following: conservative monitoring (none), corticosteroid (18%), tracheotomy (none), CO_2 laser (12%), interferon (20%), and laryngotracheoplasty (20%). The following variables showed statistical significance in the outcome of different treatment modality: 1) degree of subglottic narrowing ($P < .001$), 2) location of subglottic hemangioma ($P < .01$), and 3) presence of hemangioma in other areas ($P < .005$). Gender ($P > .05$) and age at the time of presentation ($P > .06$) did not show any statistical significance on the outcome of the treatments. **CONCLUSIONS:** Each patient should be assessed comprehensively, and treatment should be individualized based on symptoms, clinical findings, and experience of the surgeon. The authors presented treatment guidelines in an attempt to rationalize the management of subglottic hemangioma and to help determine the best possible treatment modality at the time of initial presentation.

2:30 THIRD PRIZE (TIE) - RESIDENT RESEARCH AWARD
Transnasal Esophagoscopy: A High Yield Diagnostic Tool
Jennifer G. Andrus, MD+, Boston, MA

Robert W. Dolan, MD, Burlington, MA
Timothy D. Anderson, MD, Burlington, MA

Educational Objective: At the conclusion of this presentation, participants should be able to describe office based transnasal esophagoscopy, its advantages over traditional upper gastrointestinal endoscopy, the indications for its use by otolaryngologists, and the wide range of esophageal findings it can reveal. Participants should also be able to discuss its limitations and areas for further development.

Objectives: Transnasal esophagoscopy (TNE) reveals a wide range of esophageal findings. We aim to present TNE technique, indications, outcomes, advantages, limitations, and impact on patient care. **Study Design:** Retrospective chart review. **Methods:** Charts of the first thirty patients to undergo TNE in an academic otolaryngology practice were reviewed. We present the technique used, with the age, gender, directed TNE indications, TNE findings, and disposition of patients in this series. TNE limitations are discussed with areas for future development. **Results:** We describe the first thirty patients who underwent unsedated outpatient TNE by their primary otolaryngologist. TNE was directed toward select indications: dysphagia (D); screening esophagoscopy (SE) given long-standing gastroesophageal reflux (GER) and/or laryngopharyngeal reflux (LPR); and esophageal surveillance (ES) with a new diagnosis of head and neck squamous cell carcinoma. Positive findings included mucosal cobblestoning, Barrett's esophagus, esophagitis, gastritis, candidal esophagitis, esophageal diverticulum, post-cricoid mass, patulous esophagus, and absence of secondary esophageal peristalsis. Outcomes included referral to a gastroenterologist for evaluation, with or without biopsy; direct laryngoscopy with biopsy by the primary otolaryngologist; planned cancer resection by the primary otolaryngologist; and medical management of GER/LPR by the primary otolaryngologist. **Conclusions:** With appropriate selection criteria, TNE yields a high percentage of positive findings and wide range of esophageal abnormalities, directly impacting patient management. Available to otolaryngologists in the outpatient setting, TNE expedites interventions by providing a safe, effective alternative to rigid esophagoscopy under general anesthesia, and flexible upper endoscopy with sedation. Patients will benefit from the integration of TNE into otolaryngologists' outpatient diagnostic armamentarium.

2:38 The Impact of Neck Length on the Safety of Percutaneous and Surgical Tracheotomy—A Prospective, Randomized Study
Abtin Tabaee, MD+, New York, NY
David H. Chong, MD, New York, NY
Elvin Geng, MD, New York, NY
Jerry Lin, MD, New York, NY
Stylianos Kakoullis, MD, New York, NY
Hector P. Rodriguez, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to analyze the impact of neck length on the safety of percutaneous and surgical tracheotomy.

Objectives: To investigate a correlation between neck length and the incidence of complications following both percutaneous and surgical tracheotomy and to compare the relative safety of the two procedures at our institution. **Study Design:** Prospective, randomized study of patients undergoing tracheotomy at a tertiary care center. **Methods:** 43 patients evaluated for tracheotomy at our institution between the years 2003 and 2004 were enrolled in the study and were randomly assigned to receive either a surgical tracheotomy (ST) or a percutaneous dilatational tracheotomy (PDT). All patients underwent standardized measurement of the crico-sternal distance (CSD) in the neutral and extended positions prior to the procedure. Demographic and procedural variables were recorded and the occurrence of post-operative complications was followed for one week. **Results:** PDT was performed in 29 patients and ST in 14 patients. The mean CSD of 2.7 cm increased to 3.7 cm following extension with a shoulder roll. PDT required less time (mean: 8 minutes vs. 23 minutes) and resulted in less blood loss compared to ST. A trend towards a higher incidence of complications with PDT (40%) compared to ST (7%) and in the first half of our series (learning curve) was noted. This, however, did not reach statistical significance. There was no correlation between the incidence of complications and neck length as determined by the CSD in either group of patients. **Conclusions:** We failed to demonstrate a correlation between CSD and tracheotomy related complications. Patients with short necks may be at no higher risk during either a PDT or ST as is currently believed. Experience, awareness of complications and a dedicated team approach are necessary for the safe performance of PDT.

2:46 Drilling Bone With Left-Handed Tools: A Left-Hander's Right?
Cory S. Torgerson, MD PhD+, Toronto, ON Canada
Joseph M. Chen, MD, Toronto, ON Canada
Adam Dubrowski, PhD, Toronto, ON Canada

Educational Objective: At the conclusion of this presentation, the participants should be able to demonstrate that learning to drill bone in left-handed medical students with tools designed for their dominant left hand is more effective than tools designed for right-handers.

Objectives: Left-handed surgeons can be at a distinct disadvantage in the operating room as a result of a right-handed environmental bias, whereby surgical instruments are designed to fit right-handed surgeons and operating room personnel trained to assist the right hand. This study examined whether learning to drill bone in left-handed medical students with tools designed for their dominant left hand is more effective than learning with tools designed for right-handers. **Study Design:** Novice left-handed medical students were assessed while learning to drill bone with newly developed left-handed drills (L-L, N=12). Their learning was compared to a similar group of left-handed students drilling bone with right-handed tools (L-R, N=12) and to a group of right-handed students drilling with right-handed tools (R-R, N=12). Outcome variables included expert assessment final product analyses, and mass removed during drilling. **Methods:** There were four phases to this study: 1) pre-test phase participants drilled a 3D shape in a sawbone block; 2) acquisition phase participants drilled 2D shapes, repeated on six trials; 3) immediate post-test; and 4) 1 hour delayed post-test phases were performed, which were identical to the pre-test. **Results:** Both L-L and R-R groups significantly outperformed L-R during the pre-test, immediate post-test and 1 hour delayed post-tests. There were no significant differences between groups during the acquisition phase. **Conclusions:** Left-handed medical students learn bone drilling better with tools designed for their left hand. These tools should be incorporated into residency training programs and operating rooms for the development of precision motor surgical skills.

2:54 Discussion

3:01 Break/Poster Viewing/Visit With Exhibitors

Head and Neck Session
Moderator: Arnold Komisar, MD*, New York, NY

3:30 2004 Triological Society Thesis
Combination Non-Viral IL-2 Gene Immunotherapy for Head and Neck Cancer: From Bench Top to Bedside
Bert W. O'Malley, MD*, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to develop an understanding of the process by which a concept is brought to the laboratory, tested for its clinical rationale, and then advanced into clinical trials.

OBJECTIVE: Intralesional delivery of cytokine genes has emerged as a promising therapeutic strategy for the treatment of cancer. In addition to the therapeutic effect of the delivered cytokine gene, the components of the gene delivery system also have been shown to induce beneficial immune responses. Based on these principles, we hypothesized that a molecular therapy could be developed that would provide synergistic antitumor activity via intralesional expression of IL-2 from a recombinant plasmid combined with induction of endogenous IFN-γ and IL-12 cytokines by immunostimulatory DNA. Our objective in these studies was to create and optimize a novel formulation of cationic lipid and DNA that generates local production of IL-2 protein within a targeted tumor environment with concomitant induction of the anti-tumor cytokines IFN-γ and IL-12. **STUDY DESIGN:** Prospective laboratory drug development plan that would produce human clinical trials. **METHODS:** Engineered bacterial plasmids containing a CMV-IL-2 expression cassette were specifically formulated with cationic lipids and optimized for anti-tumor effect in a floor of mouth murine tumor model. The treated tumors were assayed for local expression of IL-2 and concurrent expression of secondary cytokines IFN-γ and IL-12. Established tumors in C3H/HeJ mice were treated with various IL-2 gene formulations and clinical and immunologic responses were evaluated. Immunological studies were performed and included cytolytic T-cell assays and cytokine expression profiles. For human clinical trials, a Phase I ten patient formulated IL-2 gene therapy study was completed. Subsequently a two large scale, Phase II multi-institutional and multi-international studies were initiated comparing non-viral IL-2 gene therapy to palliative methotrexate chemotherapy or in combination with cisplatin. **RESULTS:** In the preclinical stage, maximum tumor inhibition in animal models was obtained using IL-2 plasmid formulated with DOTMA:cholesterol (1:1 mol:mol) at a plasmid:lipid charge ratio of 1:0.5 (-/+). Cationic lipid formulated IL-2 plasmid significantly inhibited tumor growth compared to formulated control plasmid ($p<0.01$) or vehicle (lactose; $p<0.01$). Consistent with previously reported studies of the immunostimulatory activity of DNA of bacterial origin, treatment of tumors with control plasmid in cationic lipid formulation induced production of endogeneous IFN-γ and IL-12, but not IL-2. Treatment of tumors with formulated IL-2 plasmid produced IL-2 protein levels that were 5 fold over background and increased IFN-γ by 32 fold ($p<0.001$) and IL-12 by 5.5 fold ($p<0.001$) compared to control plasmid formulations. The Phase I human trial demonstrated dose escalation safety which was its primary objective, and there was one anecdotal reduction in tumor size. The Phase II studies have been initiated and focus on either comparing the novel non-viral IL-2 gene immunotherapy formulation alone to methotrexate or comparing IL-2 gene therapy in combination with Cisplatin in recurrent and/or unresectable patients with head and neck squamous cell carcinoma. **CONCLUSIONS:** The preclinical data provided proof of principle for matching a delivered IL-2 transgene with an immunostimulatory non-viral formulation to enhance intralesional production of therapeutic cytokines for the maximization of anti-tumor response. Human clinical trials have demonstrated this novel therapy to be safe in the human clinical setting. Phase II trials have been initiated to assess efficacy and feasibility as a single or combination therapy for head and neck cancer.

3:40 Serum Molecular Profiles as Clinical Biomarkers of Disease in Patients with SCCHN

Robert L. Ferris, MD PhD, Pittsburgh, PA
Bridget C. Hathaway, MD, Pittsburgh, PA
Douglas Landsittel, PhD, Pittsburgh, PA
Jennifer R. Grandis, MD*, Pittsburgh, PA
Jill M. Siegfried, PhD, Pittsburgh, PA
William L. Bigbee, PhD, Pittsburgh, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand serum molecular profiles as clinical biomarkers of disease in patients with SCCHN.

OBJECTIVES: Complex interactions between cytokines in head and neck cancer patients in vivo necessitate multiplex analysis, now possible with high-throughput technology such as the Luminex technology and SELDI mass spectrometry. Using three well defined clinical cohorts of patients and controls, we studied whether serum profiles could distinguish clinically defined groups of SCCHN patients, including those with active disease, successfully treated, long-term survivors of SCCHN, and healthy, chronic smoking controls. **STUDY DESIGN:** Cross-sectional case: control cohort study. **METHODS:** Multiplexed measurement of 10 cytokines (1L-1beta, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, GM-CSF, TNF-alpha, and IFN-gamma) and SELDI mass spectrometry was performed in serum samples. Statistical discrimination analysis of outcome status was accomplished using classification trees, and ten-fold cross-validation was implemented to assess classification accuracy using independent data. **RESULTS:** Discriminating active SCCHN patients versus controls depends on four cytokines: IL-6, IL-8, IL-1beta, and TNF-alpha, yielding 62.5% sensitivity/93.1% specificity. For classifying NED patients versus controls, levels of IL-4, IL-6, IL-10, TNF-alpha and IFN-gamma, resulted in 80% sensitivity/86.2% specificity using ten-fold cross-validation. For the third classification, active SCCHN patients versus NED patients, the tree depends on four markers: TNF-alpha, IL-2, IFN-gamma, and IL-6, yielding 79.2% sensitivity/90% specificity of classification. **CONCLUSIONS:** Serum molecular profiling, including cytokines and chemokines, may be performed in a multiplex fashion in bodily fluids to reflect the immune status of SCCHN patients. Cytokine profiles appear to be similar in patients NED >3 years and those with active SCCHN, indicating that immunological responses to carcinogenesis may not normalize even in the absence of tumor for over 3 years.

3:48 THIRD PRIZE (TIE) - RESIDENT RESEARCH AWARD
Effects of Aspirin and Low Dose Heparin in Head and Neck Reconstruction Using Microvascular Free Flaps

Wade Chien, MD+, Boston, MA
Mark A. Varvares, MD, St. Louis, MO
Tessa Hadlock, MD, Boston, MA
Mack Cheney, MD, Boston, MA
Daniel G. Deschler, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to demonstrate the risks and benefits of using aspirin and low dose heparin as the anticoagulation regimen for patients undergoing head and neck reconstruction using free flaps.

OBJECTIVES: The survival of microvascular free-tissue transfer to the head and neck has been greatly increased secondary to increased experience, yet post-operative anticoagulation continues to be routinely used to prevent pedicle thrombosis. However, there is currently no consensus as to what the ideal regimen, if any, is recommended for post-operative anticoagulation. This study reviews the outcome and incidence of peri-operative complications in patients undergoing free flaps for head and neck reconstruction, using a simple post-operative anticoagulation regimen of aspirin and subcutaneous heparin (SQH). **STUDY DESIGN:** Retrospective chart review. **METHODS:** With institutional review board (IRB) approval, the charts of 261 patients undergoing free flap reconstruction from January 2000 to January 2004 were retrospectively reviewed. Patients that received a standard post-operative anticoagulation regimen of SQH (5000u SC BID) and aspirin (325 mg PO QD) were included in the study (216 patients). Charts were reviewed for post-operative complications, specifically for free flap failure, congestion, and hematoma. **RESULTS:** There were 6 flap failures (2.8%), resulting in an overall free flap survival rate of 97.2%. There were 6 patients with flap congestion that required neck exploration (2.8%), and 12 patients with post-operative hematoma (5.6%), requiring surgical intervention. **CONCLUSIONS:** The free flap survival rate in patients undergoing head and neck reconstruction using this simple anticoagulation regimen of aspirin and SQH appears to be equivalent to the free flap survival rate in patients using other anticoagulation agents. In addition, aspirin and SQH do not increase the incidence of post-operative hematoma when compared to the other anticoagulation agents. Therefore, aspirin and SQH appear to be reliable post-operative anticoagulation agents for patients undergoing head and neck reconstruction using free flaps.

3:56 Sinonasal Malignant Melanoma and Matrix Metalloproteinases

Donald J. Annino, MD DMD, Boston, MA
Nora Laver, MD, Boston, MA
Anitha Kamath, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the role of matrix metalloproteinases in basement membrane degradation and their possible significance in predicting progression and prognosis of sinonasal mucosal melanoma.

Objectives: To examine the role of matrix metalloproteinases (MMP) immunostaining as a guide for progression and prognosis with sinonasal malignant melanoma (SNM). **Study Design:** Pathology review of a series of patients with SNM. **Methods:** Five patients with SNM, aged 50-70, and control tissue were studied. Two tumors arose in the ethmoid cavity, 2 in the maxillary antrum and one from the hard palate. The tissue was probed with antibodies against MMP-2, MMP-9, MMP-13 and MMP-14. Binding was visualized using a secondary antibody by the ABC technique. A scoring system based on percent of tumor stained and staining intensity was used. **Results:** Four of five tumors showed expression of MMP-13. The more aggressive tumors showed increased expression. A single patient had positive staining for MMP-2, MMP-13 and MMP-14. MMP-9 and MMP-2 were seen only in single cases. Four of the five patients developed distant metastasis within 2 years, and 2 died within 18 months of diagnosis. One patient died from distant metastasis 4.5 years after diagnosis. One patient is alive and well 5 years after diagnosis. The two patients with the best outcome had the least amount of MMP expression. **Conclusions:** In this preliminary study, MMP immunostaining patterns appear to be helpful in predicting SNM tumor progression and prognosis. MMP-13 alone did not correlate with prognosis, but coupled with MMP-9, MMP-14, and MMP-2 is associated with a poorer prognosis in this small group of patients.

4:04 **Discussion**

4:10 **Panel: Meniere's Disease: Etiologies, Patient Evaluation, and Treatment Options**
Moderator: Samuel H. Selesnick, MD FACS*, New York, NY
Panelists: Moises Arriaga, MD, Pittsburgh, PA
Anil K. Lalwani, MD*, New York, NY
Michael J. Ruckenstein, MD*, Philadelphia, PA

5:10 **Announcements/Adjourn**

6:00 - 7:30 **Meet The Authors Poster Reception - Birdcage Walk**

SUNDAY, JANUARY 30, 2005

7:00 - 1:00 **Registration - Palladian Foyer**

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

7:00 - 7:45 **Members Only Business Meeting - Congressional A & B**

7:00 - 11:00 **Exhibit Hall Open - Palladian Ballroom**

7:00 - 7:50 **Continental Breakfast With Exhibitors - Palladian Ballroom**

8:00- 11:00 **Spouse Hospitality - Classic A**

8:00 - 12:00 **Scientific Session - Diplomat Ballroom**

RECONSTRUCTION SESSION
MODERATORS: ARTHUR N. FALK, MD, ALBANY, NY
LISA GALATI, MD, ALBANY, NY

8:00 **2004 TRIOLOGICAL SOCIETY THESIS**
Rabbit Auricular Cartilage Regeneration Using a Porcine Small Intestinal Submucosa Interposition Graft
Edmund Pribitkin, MD*, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, participants should be able to understand the rationale for using small intestinal submucosa as an interposition graft for missing cartilage, e.g. in the repair of nasal septal perforations.

OBJECTIVES: To demonstrate that interpositional grafting with porcine small intestinal submucosa [SIS] promotes cartilage regeneration following excision of rabbit auricular cartilage. **STUDY DESIGN:** Blinded, controlled study. **METHODS:** Eight New Zealand white rabbits underwent excision of auricular cartilage on 2 sites with and 2 sites without preservation of perichondrium. Porcine SIS was implanted into one site with and one site without intact perichondrium. Remaining sites served as controls. Histological assessment was performed at 3 months (N=4), 6 months (N=3) and 1 year (N=1) after grafting. **RESULTS:** Histologic evaluation showed cartilage regeneration accompanied by chronic inflammation in areas where porcine SIS was implanted between layers of intact perichondrium. Other sites failed to show significant cartilage regeneration. **CONCLUSIONS:** The results of this study utilizing porcine SIS as a bioscaffold for cartilage regeneration are promising and justify further animal and human studies.

8:10 **A Reconstructive Algorithm for Auriculectomy and Temporal Bone Defects**
Jeffrey H. Spiegel, MD, Boston, MA
Omar S. Faridi, BA, Boston, MA (*Presenter*)

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to appropriately choose the best reconstructive option for auriculectomy defects with or without resection of the temporal bone.

OBJECTIVES: 1) To develop an algorithm with which to choose an appropriate reconstruction for complicated auriculectomy and lateral head soft tissue defects with or without temporal bone resection; and 2) to present a simplified method for reconstruction of these complex defects. **STUDY DESIGN:** Literature review and retrospective review of complicated auriculectomy and lateral head soft tissue defects with or without temporal bone resection. **METHODS:** A chart review of presentation, disease, resection, reconstruction, and outcome was done for 19 patients with complicated auriculectomy and lateral head soft tissue defects with or without temporal bone resection. **RESULTS:** Reconstruction techniques included free tissue transfer (rectus abdominus flap, radial forearm flap), pedicled flaps (temporalis muscle flap, deltopectoral flap), and nonvascularized tissue grafts. Flap survival has been 100% and complications have been minimal. An algorithm based upon initial defect is created and presented—this algorithm includes both surface defect and depth of defect in cases of temporal bone resection. **CONCLUSIONS:** Defects of the lateral head such as occur after auriculectomy with or without temporal bone resection pose reconstructive challenges due to the lack of local closure options, the size and depth of the defect, and the position far from the neck. A reconstructive algorithm is presented that includes these issues along with overall patient health status, and physician reconstructive training. A reconstructive option for extensive defects of the lateral head is presented which can be reliably performed and does not require microvascular expertise.

8:18 **HIV Associated Cervicodorsal Lipodystrophy—Etiology and Management**
Daniel R. Gold, MD, Boston, MA
Donald J. Annino, MD DMD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to identify, evaluate and manage cervicodorsal manifestations of lipodystrophy in patients who have been treated with HIV protease inhibitor medications. In addition, participant should be familiar with various treatment options and the benefits obtainable with ultrasonic tumescent liposuction treatment.

OBJECTIVES: To increase awareness of the presentation, management and treatment of HIV protease inhibitor associated cervicodorsal lipodystrophy. **STUDY DESIGN:** Retrospective chart review of patients presenting to the senior author with symptomatic hypertrophic cervicodorsal fat pad attributable to HIV protease inhibitor use. **METHODS:** Retrospective review. **RESULTS:** In a 12 month period, six patients presented for evaluation of hypertrophy of their anterior neck fat and cervicodorsal fat pad. All patients had been on protease inhibitors in the past and had minimal resolution after discontinuing the offending agent. Most common presenting problems include disfigurement, limited range of upper extremity and neck motion, neck and back discomfort, difficulty with sleep including sleep study confirmed obstructive sleep apnea. Four of six patients underwent ultrasonic tumescent liposuction. Two patients had satisfactory improvement of symptoms after the first surgery, while the other two required multiple operative sessions. Intraoperatively, fibrous septa were noted which were easily overcome. No complications of hematoma, seroma, infection, prolonged pain, nor reaccumulation of fat pad were encountered. The primary obstacle in the two nonoperative patients were insurance denial based on deemed lack of established necessity. **CONCLUSIONS:** Cervicodorsal lipodystrophy is a recognized side effect of certain HIV medications and remains difficult to treat. Drug ces-

sation is necessary to prevent further progression but alone will not provide resolution of symptoms. Ultrasonic tumescent liposuction is a well-suited modality for reduction of this fibrous adipose tissue. Multiple sessions may be necessary to achieve satisfactory results. Patients may present with both aesthetic and functional issues related to the excess tissue. It is important for otolaryngologists to be familiar with the head and neck issues relevant to this disorder and its treatment.

8:26 Surgery for Graves' Disease—Is There a Role?
Joshua L. Scharf, MD, Philadelphia, PA
Ahmed M.S. Soliman, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand the role of surgery for Graves' disease in the modern era.

OBJECTIVES: To determine the role and outcomes of surgery in the treatment of Grave's disease. **STUDY DESIGN:** A retrospective review of the inpatient and outpatient records at a university medical center. **METHODS:** A retrospective review of the patient database was performed for patients undergoing thyroidectomy for diffuse toxic goiter between 1997 and 2004. The demographics, indications, preoperative preparation, procedure performed, operative time, and outcomes were reviewed. A review of the literature was also performed. **RESULTS:** A total of 8 patients were identified that underwent thyroidectomy for Graves' disease. There were 7 females and 1 male. Two had subtotal thyroidectomy and the remainder underwent total thyroidectomy. Two females were referred because of the risk of radioactive iodine on childbearing. One patient underwent surgery because of associated massive proptosis. One patient underwent surgery for airway compression. The remaining patients had a suspicion of malignancy on fine needle aspiration biopsy. There was one large intraoperative blood loss and one vocal fold motion impairment. **CONCLUSIONS:** There still remains a role for surgery in diffuse toxic goiter. Adequate preoperative preparation and careful surgical technique is required.

8:34 Discussion

8:41 Announcement of Poster Awards

OTOLOGY SESSION
MODERATOR: BARRY HIRSCH, MD, PITTSBURGH, PA

8:47 2004 TRIOLOGICAL SOCIETY THESIS
Cochlear Implantation in Children with Anomalous Cochleovestibular Anatomy
Blake C. Papsin, MD*, Toronto, ON, Canada

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to 1) identify implantable cochlear anomalies; 2) identify anomalies which preclude cochlear implantation i.e. narrows cochlear canal; and 3) describe expected outcome after cochlear implantation in children with cochleovestibular anomalies.

OBJECTIVES: To evaluate outcomes after cochlear implantation in children with anomalous cochleovestibular anatomy, a review of radiological classification, surgical implantation, and outcome of 103 children with such anomalies was performed. The hypothesis was that children with anomalous cochleovestibular anatomy would have poorer outcomes and therefore be poorer candidates as a result of their diminished ability to interpolate and use auditory information delivered through a cochlear implant. **STUDY DESIGN:** A series of studies was carried out to review the cochleovestibular anomalies among 298 children implanted over the decade ending in January 2002. Children were grouped based on cochleovestibular anatomy as follows: normal (n = 195), common cavity deformity (n = 8), hypoplastic cochlea (n = 16), incomplete partition (n = 42), and vestibular aqueduct enlargement (n = 37). Concomitant anomalies of the posterior labyrinth (n = 26) and internal auditory canal/cochlear canal (n = 11) were also identified. Findings at surgery, postoperative speech perception outcomes, and speech processor programmability were examined as a function of cochleovestibular anatomy. **METHODS:** A database containing demographics (age at implant, duration of implant use), audiological characteristics, pure-tone average, surgical findings (cerebrospinal fluid leak/perilymph leak, abnormal facial nerve anatomy), speech perception data (from two closed-set and three open-set tests), and data relating to speech processor programmability were used for analysis. Electrically evoked auditory brainstem response was measured in 94 of the children (2 cases of common cavity deformity, 7 of hypoplastic cochlea; 10 of incomplete partition; and 12 of vestibular aqueduct enlargement). Response morphological findings were assessed by visual inspection of the waveforms. Data were analyzed using analyses of variance with post hoc testing using the Bonferroni multiple-comparisons test. To further assess differences in outcomes between different categories of cochleovestibular anomalies, linear regression analyses were performed. The significance level was set at $P < .05$. **RESULTS:** The use of high-resolution imaging techniques resulted in the detection of a cochleovestibular anomaly in 35% of implanted ears. Implantation was more challenging in 24% of the children as a result of abnormal middle ear anatomy (17.5%) or cerebrospinal fluid leak/perilymph leak (6.7%). There was no significant difference in speech perception scores in children with anomalous cochleae compared with children with normal cochleovestibular anatomy. Children with narrowing of the internal auditory canal/cochlear canal performed more poorly than all other groups. Children with common cavity deformity and hypoplastic cochlea had reduced dynamic range and increased incidence of facial simulation and were judged to be more difficult to program despite the fact that no fewer electrodes were inserted. Children with common cavity deformity and hypoplastic cochlea tended to require wider pulse widths more often than children in other groups, and these requirements were associated with abnormal morphological findings on evoked auditory brainstem response testing. **CONCLUSIONS:** The authors have been continuing to assess the candidacy of each child applying for cochlear implantation individually, and the results of present study have suggested that the presence of anomalous cochleovestibular anatomy, with the exception of narrowing of the internal auditory canal/cochlear canal, should not play a significant role in candidacy assessment. Children with narrow internal auditory canal/cochlear canal should be carefully and individually considered. In children with anomalous cochleovestibular anatomy, the potentially increased difficulty in the establishment of optimal stimulation levels and the higher potential for surgical difficulty must be weighed in candidacy decisions but do not universally preclude successful implantation and a good outcome.

8:57 Endoscopic Transcanal "Open Cavity" Management of Cholesteatoma
Muaaz Tarabichi, MD, Dubai, UAE

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to 1) understand the rational for endoscopic "open cavity" transcanal approach to cholesteatoma; 2) get familiarized with the OR setup, instrumentation and surgical technique; and 3) communicate the outcome of this technique and accumulated 10 years experience.

OBJECTIVES: Large problematic cavities, unpredictable healing pattern, fibrosis, and closing of the meatus are commonly associated with postauricular canal wall down procedures and often preclude ossicular reconstruction. Endoscopic technique allows transcanal exploration of the attic and antrum with removal and exteriorization of disease and provides a "what you see is what you get" open cavity; this in turn allows a better framework for ossicular and partial tympanic membrane reconstruction. This report describes 10 years experience with this technique. **STUDY DESIGN:** Case series. **METHODS:** 85 ears with acquired cholesteatoma underwent endoscopic transcanal tympanotomy and extended atticotomy to access and remove the sac along with the incus and the head of malleus. Partial reconstruction of the tympanic membrane up to the level of the horizontal segment of the facial nerve was performed along with ossicular reconstruction. The extended atticotomy was packed open. Office based endoscopic follow-up was performed. **RESULTS:** There were no iatrogenic facial nerve injuries. Bone thresholds were stable, except in one patient with perilymphatic fistula. Mean follow-up was 32 months. Closure of air bone gap to within 20dB (avg. of 500, 1000, 2000 Hz) was accomplished in 47 ears. 6 ears required revision surgery. 10 required office based minor procedures to maintain an open attic. **CONCLUSIONS:** Transcanal endoscopic "open cavity" approach allows minimally invasive removal of cholesteatoma and exteriorization of the attic with results that compare well to postauricular methods. This technique produces predictable, small, and

easily manageable cavities; it provides a better framework for reconstruction.

9:05 Expanding the Differential Diagnosis of Dizziness
Jeffrey P. Staab, MD, Philadelphia, PA
Michael J. Ruckenstein, MD*, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to identify the most common causes of dizziness in patients whose symptoms cannot be explained entirely by a neurotologic illness.

OBJECTIVES: Dizziness may be caused by otologic, neurologic, cardiac, and psychiatric illnesses. Otorhinolaryngologists play a central role in the evaluation of patients with dizziness, so they are well suited to guide patients and primary care clinicians through the evaluation process. This study seeks to improve diagnostic outcomes by expanding and refining the differential diagnosis of dizziness using data from a large cohort of patients whose presenting symptoms could not be explained by identifiable neurotologic deficits. **STUDY DESIGN:** Systematic review of multispecialty diagnoses in 340 patients whose complaints of dizziness exceeded the findings of comprehensive neurotologic evaluations. **METHODS:** From 1998—2004 approximately 30% of 2400 patients, aged 15-83 years, referred to our tertiary care balance center for dizziness had symptoms that could not be explained fully by the results of a thorough neurotologic evaluation. We followed 340 of these patients through multiple specialty examinations leading to their final diagnoses. **RESULTS:** Most patients (281/340, 83%) had a psychiatric illness, especially an anxiety disorder, but this was the primary cause of dizziness in only 125 (36%) individuals. The remaining patients had 1) anxiety disorders precipitated by previous neurotologic events (77, 23%); 2) coexisting otologic and psychiatric illnesses (79, 23%); 3) traumatic brain injuries without overt vestibular insults (44, 13%); or 4) dysautonomias (22, 6.5%). **CONCLUSIONS:** The most common causes of dizziness in patients whose symptoms did not arise solely from neurotologic illnesses were anxiety disorders (with or without comorbid neurotologic deficits), traumatic brain injuries, and dysautonomias. Otorhinolaryngologists may aid patients with enigmatic dizziness by recommending appropriate evaluations for these conditions.

9:13 Discussion

9:20 Break/Poster Viewing/Visit With Exhibitors

HEAD AND NECK SESSION
MODERATOR: SOLY BAREDES, MD*, NEWARK, NJ

9:45 Polymorphous Low Grade Adenocarcinoma of Minor Salivary Gland Origin—A Case Series Report
Ronda E. Alexander, MD, New Hyde Park, NY
Natalie P. Steele, MD, New Hyde Park, NY
John E. Fantasia, DDS, New Hyde Park, NY
David J. Myssiorek, MD, New Hyde Park, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the clinical and pathologic hallmarks that characterize this lesion, differentiate it from other salivary tumors and propose appropriate therapy.

OBJECTIVES: Polymorphous low grade adenocarcinoma (PLGA) is a malignant tumor of salivary origin predominantly arising in minor glands of the palate and oral mucosa. It is distinct from other glandular neoplasia in the head and neck. Our series presents nineteen (19) patients culled from a single teaching hospital oral pathology practice. We sought to examine the course of patients treated with primary surgery. **STUDY DESIGN:** Retrospective chart review. **METHODS:** The charts of all patients who were found to have microscopic diagnosis of PLGA on final pathologic examination were reviewed. The treatment course was identified and current disease state established. **RESULTS:** In all cases, the primary therapeutic modality was surgery. Procedures ranged from wide local excision to partial maxillectomy. Positive margins were identified pathologically in 4 of the 19 patients; these individuals underwent adjuvant external beam radiation therapy. Follow-up ranged from 17 to 150 months. No patient required further surgical therapy after the initial extirpation with adjuvant radiotherapy in the indicated cases. No patient identified in the series experienced mortality as a result of this tumor. **CONCLUSIONS:** Our findings confirm the adequacy of surgical excision as primary therapy and the overall good prognosis for those diagnosed with this entity. Adjuvant radiotherapy should be applied in the case of positive margins identified on final pathologic examination.

9:53 An Unusual Presentation of Carotid Artery Pseudoaneurysm: Considerations in Diagnosis and Management
Elizabeth J. Mahoney, MD, Boston, MA
Joseph D. Raffetto, MD, Boston, MA
Ram V.S.R. Chavali, MD, Boston, MA
Gregory A. Grillone, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the variable clinical presentations of carotid artery pseudoaneurysm, review the pathophysiology and natural history of this vascular abnormality and describe the diagnostic evaluation and treatment options available when caring for a patient in which there is suspicion for carotid artery pseudoaneurysm.

OBJECTIVES: Carotid artery pseudoaneurysms typically present as expansive neck masses with pulsatility or audible bruit. A history of blunt trauma, collagen vascular disease or intravascular cannulation coupled with these physical exam findings typically raise clinical suspicion. Delays in diagnosis with catastrophic sequelae including hemorrhage, stroke and airway obstruction may occur. The authors review an unusual presentation of carotid artery pseudoaneurysm, and discuss the etiology, natural history and diagnostic challenges posed by this entity. **STUDY DESIGN:** Case report. **METHODS:** Case report with literature review. **RESULTS:** A 41 year old previously healthy male presented with acute onset of dysphagia, hoarseness and a small nonpulsatile level II neck mass. The patient denied any history of trauma or IV drug use. The neck mass rapidly enlarged causing tracheal deviation and necessitating intubation. A neck CT showed an amorphous heterogeneous soft tissue density in the right neck extending into the superior mediastinum. Although ultrasound was negative, subsequent CT angiogram revealed an irregularity of the right common carotid artery. Carotid angiogram confirmed the presence of a pseudoaneurysm of the distal right common carotid artery. An emergent neck exploration with evacuation of hematoma and pseudoaneurysm repair was performed. The patient recovered without neurologic deficits. **CONCLUSIONS:** Otolaryngologists frequently participate in the evaluation of rapidly enlarging neck masses and must maintain a high index of suspicion for carotid artery pseudoaneurysm. This case illustrates that the classic clinical history of trauma may be vague or nonexistent, and the typical finding of an audible bruit or pulsatility may be absent.

10:01 Efficacy of Rofecoxib Following Thyroid Surgery
Rami K. Batniji, MD, Albany, NY
Gavin Setzen, MD, Albany, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the use of rofecoxib following thyroid surgery.

OBJECTIVES: To assess the effects of a cyclooxygenase 2 inhibitor, rofecoxib, on pain management following thyroid surgery and to evaluate the incidence of postop-

erative nausea and vomiting and on opioid consumption following thyroid surgery. **Study Design:** Retrospective study and literature review. **Methods:** The study comprises a retrospective report of patients who underwent thyroid surgery (thyroid lobectomy or total thyroidectomy) by a single surgeon from 2003 to 2004. All patients scheduled for thyroid surgery were given a daily dose (50mg) of rofecoxib for one week, starting the night before surgery. Data was obtained by medical chart review and phone communication. Main outcomes evaluated include the incidence of postoperative nausea and vomiting, amount of opioid consumption, and postoperative pain levels. Results were compared to a cohort group treated with an opioid for postoperative pain management following thyroid surgery. **Results:** The treatment group demonstrated adequate pain management when compared to the cohort group. Furthermore, the treatment group reported decreased opioid consumption and decreased postoperative nausea and vomiting. **Conclusions:** Rofecoxib is effective in the management of pain following thyroid surgery and results in decreased opioid consumption and decreased postoperative nausea and vomiting.

10:09 Two Cases of Recurrent Third Branchial Cleft Sinus With Involvement of the Thyroid Gland
Brian E. Benson, MD, Newark, NJ
Erik G. Cohen, MD, Newark, NJ
Huma A. Quraishi, MD, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the clinical course, diagnostic evaluation, and management of third branchial cleft sinuses.

Objectives: Third branchial cleft anomalies are rarer than second branchial anomalies. Misdiagnosis, recurrent infection and multiple surgical procedures prior to accurate diagnosis is common. Two cases are presented. The appropriate diagnostic workup, radiographic findings and definitive management are discussed. **Study Design:** Retrospective case review. **Methods:** Medical records and diagnostic studies were retrospectively reviewed. **Results:** A 14 year old male presented with an abscess in the lower neck. He had been previously treated for multiple deep neck abscesses, a left thyroid abscess, and excision of a presumed second branchial cleft sinus. MRI revealed an abscess cavity with a tract extending into the left thyroid lobe. Diagnostic laryngoscopy revealed an opening in the apex of the left pyriform sinus. A sinus tract extending from the thyroid gland to the pyriform sinus was identified intraoperatively. A 34 year old female presented with an abscess in the low neck. She had a history of multiple neck abscesses with multiple resections of a cystic neck lesion. CT scan revealed a tract through the left thyroid lobe, and a barium pharyngoesophagram revealed a sinus tract extending from the left pyriform sinus. A sinus tract extending from the thyroid gland to the pyriform sinus was identified intraoperatively. En bloc resection including selective neck dissection, thyroid lobectomy and excision of the sinus tract was performed in both cases. **Conclusions:** Third branchial cleft sinuses are frequently misdiagnosed. Appropriate imaging studies strongly suggest the correct diagnosis. Definitive management requires en bloc soft tissue resection including selective neck dissection, thyroid lobectomy, and excision of the sinus tract.

10:17 Discussion

General Topics
Moderator: Gavin Setzen, MD, Albany, NY

10:24 Sarcoidosis of the Larynx—Early Detection and Management
Omar Khan, BA, Boston, MA
Jaimie deRosa, MD, Boston, MA (*Presenter*)
Gregory Grillone, MD, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize the epidemiology, clinical manifestations, and initial management of laryngeal sarcoidosis with regards to the most recent literature and strategies.

Objectives: To present the case of a 56 year old African American female with biopsy-proven laryngeal sarcoidosis as well as examine the most recent literature on epidemiology, clinical symptoms, and initial workup and management of laryngeal sarcoidosis. **Study Design:** Case report. **Methods:** A retrospective review of the patient's chart including relevant radiologic studies and pathology. A Medline search of the English literature combining keywords "sarcoid" and "larynx" from 1966 to the present. **Results:** We present a case of a 56 year old female who reported a 2 year history of subtle voice change, dysphagia to solids and liquids with occasional choking, sore throat, paroxysmal nocturnal dyspnea and exertional shortness of breath. **Conclusions:** Sarcoidosis of the head and neck presents in a myriad of fashions. As such, initial presentation may occur to a diverse group of physicians including internists (dyspnea, lymphadenopathy), pulmonologists, neurologists (CN palsy, seizures, meningitis), ophthalmologists (uveitis, dry eyes, blurred vision), dermatologists (erythema nodosum, rash) as well as otorhinolaryngologists. Although considered a rare entity, laryngeal sarcoidosis may often go undiagnosed or misdiagnosed and should be considered in the differential of any patient presenting with symptoms of gradual enlargement of endolaryngeal structures—dysphagia, dyspnea, non-productive cough, stridor, globus sensation & hoarseness—in addition to rapid, possibly life-threatening airway emergencies. Recognition of the clinical symptoms, classic laryngoscopic appearance, and initial workup and management are fundamental to the practicing otorhinolaryngologist in both the community and critical care settings.

10:32 Foot Drop in Head and Neck Cancer
Ryan S. Borress, MD, Brooklyn, NY
Gady Har-El, MD*, Brooklyn, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the clinical and electrophysiological findings as well as the pathophysiology of common peroneal neuropathy that occurs in patients with head and neck cancer.

Objectives: Describe the clinical and electrophysiological findings in head and neck cancer patients with common peroneal neuropathy and discuss the pathophysiology. **Study Design:** Retrospective chart review of patients seen at our institution between 1995 and 2004 with head and neck cancer and common peroneal neuropathy. **Methods:** Cases of common peroneal neuropathy in head and neck patients were identified and pertinent information, including results of electrophysiological studies, was obtained. **Results:** Four head and neck cancer patients with common peroneal neuropathy were identified. All had significant weight loss. One patient became symptomatic before treatment, 2 patients during treatment, and one patient had foot drop 4 years after treatment when his jejunum free flap developed severe stricture resulting in sudden weight loss. Two patients had electrophysiologic studies which showed nerve conduction block at the fibular head as well as denervation of peroneal-innervated muscles. Imaging studies revealed no evidence of metastatic disease in the lumbosacral region. All 4 patients improved after weight gain. **Conclusions:** Common peroneal neuropathy may be seen in head and neck cancer patients. The common peroneal nerve may be susceptible to injury because of loss of subcutaneous tissue that cushions the nerve at the fibular head. Consideration should be given to prevention (avoid inactivity and leg crossing, attention to weight).

10:40 Frontolateral Hemilaryngectomy for the Management of Pediatric Squamous Cell Carcinoma of the Larynx
Parul Goyal, MD, Syracuse, NY
Robert M. Kellman, MD, Syracuse, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe 1) the presentation and evaluation for pediatric laryngeal malignancies; 2) the laryngeal preservation approaches for treatment of these malignancies; and 3) appropriate patient selection for the various treatment modalities.

OBJECTIVES: Squamous cell carcinoma of the larynx in pediatric patients is a very rare entity. A variety of treatment options have been described with most laryngeal conservation approaches relying on radiation. However, radiation can be associated with multiple detrimental effects in pediatric patients, including disruption of laryngeal growth and the risk for secondary malignancy. To avoid these side effects, frontolateral hemilaryngectomy can be used and provides several advantages when compared to other reported treatment modalities. **STUDY DESIGN:** Retrospective case review. **METHODS:** Records of a pediatric patient who underwent frontolateral hemilaryngectomy for a laryngeal squamous cell carcinoma were analyzed. **RESULTS:** A 12 year old male underwent an extended frontolateral hemilaryngectomy for squamous cell carcinoma involving the anterior commissure and right true vocal cord. The patient was able to be decannulated successfully. He has an excellent voice outcome, is able to participate in normal physical activities, and has had no evidence of recurrence after 5 year follow-up. **CONCLUSIONS:** Frontolateral hemilaryngectomy is a feasible and effective technique for the management of children with certain laryngeal malignancies. The approach was used in a patient with laryngeal squamous cell carcinoma. Long-term follow-up has shown a stable airway, good voice outcome, and cure of the original tumor. Because of the limited number of cases of pediatric laryngeal malignancies deciding on the optimal treatment regimen can be difficult. Combined with the other limited reports in the literature, this report illustrates that frontolateral hemilaryngectomy allows for laryngeal preservation and oncologic cure while avoiding the side effects associated with radiation in these young patients.

10:48 Discussion

10:55 PANEL: CONTROVERSIES IN THE TREATMENT OF OBSTRUCTIVE SLEEP DISORDERED BREATHING
MODERATOR: Aaron E. Sher, MD, Albany, NY
PANELISTS: Kelvin Lee, MD, New York, NY
Samuel A. Mickelson, MD, Atlanta, GA
Marc Raphaelson, MD, Frederick, MD

11:55 Introduction of 2005 Vice President-Elect, Patrick J. Gullane, MD*, Toronto, ON, Canada
Steven M. Parnes, MD*, Albany, NY

12:00 Adjourn

POSTERS

1. Calcifying Epithelial Odontogenic Tumor of the Maxillary Sinus: A Case Report
Ramez J. Awwad, MD, Syracuse, NY
Robert M. Kellman, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the gross and histological features of Pindborg tumors. Participants will be able to recognize the unique radiologic features of this entity. Participants should be able to discuss the clinical behavior of Pindborg tumors and will learn the surgical treatment of choice.

OBJECTIVES: The calcifying epithelial odontogenic tumor (CEOT) is a rare benign odontogenic tumor which accounts for approximately 1% of all odontogenic neoplasms. The tumor was first described as a separate entity in 1955 by Pindborg, and is now commonly referred to in the literature as the "Pindborg tumor". By and large, the majority of Pindborg tumors are found in the molar or premolar region of the mandible, followed by the maxilla. Pindborg tumors of the maxillary sinus, however, are exceedingly rare, with only five other cases previously reported in the literature. **STUDY DESIGN:** Case report. **METHODS:** We report the case of a 37 year old Caucasian female who presented with a several year history of right-sided facial pain and nasal congestion. A CT scan demonstrated an expansile mass filling the right maxillary sinus in association with an unerupted molar tooth along the floor of the right orbit. Biopsy via a Caldwell-Luc approach revealed a Pindborg tumor. The patient underwent a right maxillectomy and orbital floor reconstruction with a temporalis muscle sling. A palatal prosthesis was inserted and screwed in place. **RESULTS:** Histologic review identified a classic Pindborg tumor. The surgical margins were clear of tumor. The patient remains tumor free. **CONCLUSIONS:** Pindborg tumors are a rare, benign odontogenic tumor most commonly located in the mandible. Pindborg tumors of the maxillary sinus, however, are extremely rare. Maxillectomy with clear surgical margins is the treatment of choice.

2. Mucoepidermoid Carcinoma of the Parotid Gland: An Unusual Presentation
Ramez J. Awwad, MD, Syracuse, NY
Jack Hsu, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the various gross and histopathologic features of mucoepidermoid carcinoma of the parotid gland. Participants should recognize that cystic lesions of the parotid gland are not necessarily benign entities and should not merely be dismissed as such. Participants should recognize the sensitivity and specificity of fine needle aspirations in the diagnosis of salivary gland tumors. Lastly, a negative FNA finding alone should not prevent or delay surgical intervention when it is otherwise clinically indicated.

OBJECTIVES: Mucoepidermoid carcinoma is the most common malignancy of the parotid gland. Although most patients present with an asymptomatic solid mass, mucoepidermoid carcinoma may have a prominent cystic component. Cystic lesions of the parotid gland are not necessarily benign, and mucoepidermoid carcinoma should be included in the differential diagnosis. **STUDY DESIGN:** Case report. **METHODS:** We present the case of a 24 year old male, who presented with a left-sided parotid mass. He underwent three separate FNAs and a CT guided biopsy, all demonstrating lymphocytes and benign epithelial cells, with no evidence of mucus or malignant cells. An MRI with/without gadolinium demonstrated a large multicystic mass within the tail of the deep lobe of the parotid gland. Final pathology demonstrated a low grade mucoepidermoid carcinoma. **RESULTS:** The patient underwent a total parotidectomy, and pathology demonstrated a low grade mucoepidermoid carcinoma with a positive margin at the mastoid tip, as well as a focus of tumor in a periparotid lymph node and perineural invasion. He subsequently underwent a left partial temporal bone resection with facial nerve dissection and a left modified radical neck dissection. He received postoperative radiation therapy. **CONCLUSIONS:** The clinical presentation of a mucoepidermoid carcinoma of the parotid gland can be very similar to that of a benign lesion. Cystic lesions of the parotid gland should not merely be dismissed as benign entities, and mucoepidermoid carcinoma should be included in the differential diagnosis. Lastly, a negative FNA finding alone should not prevent or delay surgical intervention when it is otherwise clinically indicated.

3. Image Guided Removal of Cholesteatoma and Drainage of Epidural Abscess in a Patient With Fibrous Dysplasia of the Temporal Bone
Matthew J. Carfrae, MD, Albany, NY
Rami K. Batniji, MD, Albany, NY
Steven M. Parnes, MD*, Albany, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the potential advantages of image guided temporal bone surgery in cases of severe anatomic malformation.

OBJECTIVES: To gain an appreciation of the clinical presentation, surgical challenges, and the role of image guided surgery in a case of fibrous dysplasia of the temporal bone complicated by cholesteatoma and epidural abscess. **STUDY DESIGN:** Case presentation. **METHODS:** A patient with fibrous dysplasia of the temporal bone, cholesteatoma, and epidural abscess underwent image guided mastoidectomy for removal of disease using the BrainLAB VectorVision image guided navigational system. **RESULTS:** The addition of an image guided technique in this case of challenging temporal bone anatomy caused no additional risk to the patient and provided helpful anatomic guidance. **CONCLUSIONS:** Image guided assistance provided accurate and helpful information in the setting of severe anatomic malformation of the temporal bone and aided in removal of disease and preservation of neurovascular structures within the temporal bone.

4. Vocal Fold Paralysis Following Laryngeal Mask Airway Ventilation: A Case Report
Teresa V. Chan, MD, Boston, MA
Gregory A. Grillone, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to demonstrate an understanding of LMA related vocal cord paralysis, discuss possible mechanisms of injury and apply this knowledge to their daily practice.

OBJECTIVES: Laryngeal mask airways (LMAs) are being used with increasing frequency in the United States, accounting for approximately one-third of all operations performed. In Britain where they were first introduced in 1988, LMAs are estimated to be used in up to fifty percent of cases. Not only has their usage in elective operations been on the rise, their scope has also grown to include possible application in emergent airway management. This widespread acceptance is not surprising. The LMA provides a good intermediate alternative between bag-and-mask ventilation and endotracheal intubation for airway management. It is cost efficient and easy to teach and use. As the use of LMAs has increased, there has been a concomitant rise in the incidence of LMA related complications. These include cases of mucosal trauma, tongue cyanosis, lingual, hypoglossal and recurrent laryngeal nerve paralyses and arytenoid dislocation. These have been predominantly reported in the anesthetic community and have remained relatively absent within the otolaryngologic literature. As providers who will manage the sequelae of LMA related laryngeal injuries, otolaryngologists must remain cognizant of potential problems and their underlying mechanisms. In this respect, we report one case of unilateral vocal fold paralysis which required operative repair following the use of a laryngeal mask airway. We review the existing case reports, propose mechanisms of injury and discuss practical applications of our findings. **STUDY DESIGN:** Case report. **METHODS:** Case report and review of the existing literature. **RESULTS:** Inappropriate LMA size, excessive cuff pressure from over-inflation or diffusion of nitrous oxide intraoperatively, poor positioning of the LMA, use of lidocaine jelly lubricant, local inflammation and stretching of the vagus nerve with head positioning may contribute to injury to the recurrent laryngeal nerve and lead to paresis or paralysis of the vocal cords. **CONCLUSIONS:** 1) The LMA remains a good alternative airway device, but it is not without complications; 2) an appropriately sized LMA must be chosen for each case,

existing size guidelines may not be adequate; 3) intraoperative cuff pressure monitoring or partial cuff deflation may be warranted to prevent laryngeal injury; and 4) post-operative hoarseness must be assessed and documented early to ensure appropriate follow-up by otolaryngology.

5. Occult Renal Cell Carcinoma Metastatic to the Accessory Lobe of the Parotid Gland

Nicole Daamen, MD, Pittsburgh, PA
John A. Ozolek, MD, Pittsburgh, PA
Barton F. Branstetter, MD, Pittsburgh, PA
Eugene N. Myers, MD*, Pittsburgh, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the accessory lobe of the parotid gland as a distinct entity that can harbor primary or metastatic tumors and appreciate that a diagnosis of clear cell tumor in an unusual site should prompt further investigation for a renal cell carcinoma primary tumor.

OBJECTIVES: The accessory lobe of the parotid gland is an island of salivary gland tissue found anterior to and separate from the main parotid gland. We report a unique case of occult renal cell carcinoma metastatic to the accessory lobe of the parotid gland. This report will illustrate the accessory lobe as a potential site for metastases and describe the surgical approaches used to excise tumors in this area. **STUDY DESIGN:** Case report. **METHODS:** The patient's records were analyzed and the world literature reviewed. **RESULTS:** A few case reports have described head and neck cancer metastatic to the accessory lobe of the parotid gland. However, only one infraclavicular primary, prostate carcinoma, has been previously described. Our patient presented with a buccal mass that had been present for approximately one year. He underwent an extended preauricular parotidectomy incision to remove the mass within the accessory lobe of the parotid. Pathology revealed a clear cell neoplasm with oncocytic features. This prompted a search for a distant primary, which revealed a renal cell carcinoma. **CONCLUSIONS:** Renal cell carcinoma is known to metastasize to head and neck structures. However, it has not previously been described metastasizing to the accessory lobe of the parotid gland, in which masses are almost always primary salivary neoplasms. An extended preauricular parotidectomy incision should be used, though a concurrent superficial parotidectomy does not always need to be performed. A diagnosis of clear cell neoplasm in any unusual site should prompt a search for renal cell carcinoma.

6. Changes in Cough Score After Pediatric Adenotonsillectomy

Kevin H. Ende, MD, Philadelphia, PA
Vincent Callanan, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to see a relationship between definitive treatment for pediatric sleep related breathing disorder and changes in cough scores.

OBJECTIVES: The purpose of this study is to demonstrate a change in cough scores in children after adenotonsillectomy for sleep related breathing disorder. **STUDY DESIGN:** Retrospective chart review. **METHODS:** Cough scores are generated based on two parameters, (1) severity of cough (0 = not at all, 1 = mild, 2 = moderate and 3 = severe) and (2) frequency of cough (0 = absent, 1 = once a month, 2 = once a week, 3 = 2-4 times per week and 4 = daily). The product of these two parameters ranges from 0-12. **RESULTS:** The charts of pediatric patients who presented with cough in conjunction with sleep related breathing disorder are to be reviewed. We will compare the pre- and post-operative cough scores in this group of patients. **CONCLUSIONS:** We will define the relationship between adenotonsillectomy for sleep related breathing disorder and changes in cough score.

7. Surgical Fires During Pharyngeal Procedures

John P. Gavin, MD+, Albany, NY
Henry F. Butehorn, MD, Albany, NY
Gavin Setzen, MD, Albany, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to identify materials used in pharyngeal surgery that are combustible at low oxygen concentrations, know how to avoid oxygen enriched environments, understand the appropriate measures for minimizing the risk of surgical fires, and know how to respond if a fire does occur.

OBJECTIVES: To review a case of fire during adenoidectomy using a suction coagulator in order to determine how the risk of fire can be minimized and how to appropriately respond to a fire. **STUDY DESIGN:** Report of a case and review of the literature. **METHODS:** We report a case of a six year old boy who suffered a pharyngeal fire during adenoidectomy performed with an electrosurgical device. A spark ignited the red rubber catheters and the outer surface of the endotracheal tube. The fire was immediately controlled with water and the nasopharynx and oropharynx were packed with ice. The patient suffered no long-term sequelae. The materials involved in the fire and the circumstances surrounding the event were evaluated by an independent agency (Emergency Care Research Institute). Using their findings and the results of our literature review, we suggest methods for minimizing the risk of fire during oropharyngeal surgery and strategies for dealing with a fire if one does occur. **RESULTS:** Red rubber catheters, endotracheal tubes, and adenoid tissue can act as fuels during pharyngeal surgery. High oxygen concentrations resulting from leaks around the endotracheal tube increase the risk of fire. The surgeon should be prepared to extinguish a fire at all times. **CONCLUSIONS:** Surgical fires can be catastrophic events. Taking the appropriate steps to minimize the risk of fire during surgery and being prepared to respond to fire is crucial for all surgeons.

8. Castleman Disease of the Head and Neck

Aylon Y. Glaser, MD, Newark, NJ
Soly Baredes, MD*, Newark, NJ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the features and presentation of Castleman disease, as well as its workup and clinical management.

OBJECTIVES: To describe two cases of Castleman disease in the head and neck, including clinical presentation, workup, disease course, surgical approach, pathological findings. **STUDY DESIGN:** Retrospective chart review of two cases of Castleman disease. **METHODS:** The clinical presentation, management, and outcomes were reviewed. **RESULTS:** Case #1: 41 year old female presented with a left level V 3.5 x 2.2 cm neck mass four years ago. Fine needle aspiration biopsy revealed lymphoid cells and histiocytes suggestive of a reactive process. Patient refused excision, opted for continued observation. Though she remained asymptomatic, an increase in size of this mass was recently noted. Excision of a 4.5 x 2.8 cm mass was performed; pathology revealed Castleman disease, hyaline-vascular type. No other masses were identified. Case #2: 27 year old man presented with a 2.3 cm x 2.1 cm mass in the right supraclavicular region. He had no other complaints. CT confirmed a solitary neck mass which was excised and found to be consistent with Castleman disease, hyaline vascular type. **CONCLUSIONS:** Though rare, Castleman disease is an important cause of lymph node hyperplasia. Most cases are intrathoracic, but the disease may affect the neck or abdomen. Histologically, two types are described: hyaline vascular and plasma cell; separately or mixed. Clinically, this disease has two variants. These cases are examples of the localized variant of this disease, for which surgical excision is curative. However, it is important to identify any other masses which may be present, as the multicentric variant requires aggressive treatment and may be fatal.

9. Subcutaneous Lesions Mimicking Parotid Tumors

Eric G. Grimes, MD, Philadelphia, PA

Ahmed M.S. Soliman, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to use clinical and radiologic findings to differentiate parotid from extraparotid lesions.

OBJECTIVES: To describe a case series of extraparotid subcutaneous facial lesions which were initially referred as parotid tumors. **STUDY DESIGN:** A case series of patients presenting to a tertiary medical center otolaryngology-head and neck surgery clinic. **METHODS:** Review of four patients presenting with lesions of the superficial tissues overlying the parotid gland are described including clinical examination, radiologic studies, surgical planning and intraoperative findings, histological findings, and cosmetic outcomes. **RESULTS:** All four lesions were imaged preoperatively with MRI and removed completely using a preauricular incision and intraoperative facial nerve monitoring. Cosmetic results are excellent. There has been no recurrence on follow-up of six months. Three sebaceous cysts and one superficial lipoma were confirmed pathologically. **CONCLUSIONS:** In patients presenting as parotid tumors one must consider the possibility of extraparotid subcutaneous lesions. Specific clinical signs and MRI findings are useful in making the diagnosis.

10. Hypopharyngeal Stricture as a Manifestation of Linear Immunoglobulin A (IgA) Bullous Dermatosis

Sherif A. Hassan, MD, Newark, NJ
Soly M. Baredes, MD*, Newark, NJ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to diagnose and manage patients with hypopharyngeal stricture as a complication of linear immunoglobulin A (IgA) bullous dermatosis (LABD).

OBJECTIVES: To present the clinical presentation, workup, surgical approach of the first case report of a patient with hypopharyngeal stricture as a complication of linear immunoglobulin A (IgA) bullous dermatosis (LABD). **STUDY DESIGN:** Retrospective review of the records of a case of linear immunoglobulin A (IgA) bullous dermatosis with hypopharyngeal stricture. **METHODS:** The clinical presentation, workup, surgical approach, and outcomes reviewed. **RESULTS:** A 48 year old female with a history of linear immunoglobulin A (IgA) bullous dermatosis diagnosed in 1992 presented with a one year history of progressive dysphagia. She gave a history of multiple current bullous lesions of the upper aerodigestive tract. Barium swallow, direct laryngoscopy and esophagoscopy revealed a stricture of the upper esophageal sphincter with bilateral scar bands. The upper esophageal stricture was sequentially dilated under direct visualization. The patient had dramatic improvement of swallowing function after the dilation of the stricture. **CONCLUSIONS:** Linear immunoglobulin A (IgA) bullous dermatosis is a rare entity with skin and mucosal manifestations. In our case the patient was found to have stricture of the upper esophageal sphincter and release of the adhesions helped alleviate the dysphagia.

11. Buccal Mass: Initial Presentation of Renal Cell Carcinoma

Bryant B. Lee, MD, New York, NY
Beverly Y. Wang, MD, New York, NY
Michael A. Shohet, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the differential of clear cell carcinoma of the upper aerodigestive tract, understand the histologic distinctions between the varying types of carcinoma and perform the correct diagnostic workup.

OBJECTIVES: To present a case of solitary metastatic renal cell carcinoma deposit in the oral cavity. The epidemiology and likely mechanism of distant deposit is discussed. The histologic differential diagnosis of clear cell carcinoma and the potential need for a search for a primary tumor are highlighted. **STUDY DESIGN:** This is a retrospective case report. **METHODS:** Retrospective chart review. **RESULTS:** Based on the pathological findings of the oral cavity clear cell carcinoma, a diagnostic workup was performed that revealed a primary renal cell carcinoma. Both the primary tumor and the metastatic deposit were managed surgically. The patient is currently alive and doing well. **CONCLUSIONS:** Clear cell tumors of the oral cavity can be challenging to the pathologist. Both primary minor salivary gland tumors and distant tumors with metastatic deposits in the oral cavity must be considered.

12. An Unusual Presentation of Inverted Papilloma of the Sphenoid Sinus

Scott L. Lee, MD, Albany, NY
Siobhan Kuhar, MD PhD, Albany, NY
Steven M. Parnes, MD*, Albany, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to recognize the often nonspecific symptoms of a sphenoid sinus inverted papilloma, appreciate the histological findings from which its name is derived, and demonstrate understanding of the basic management.

OBJECTIVES: An inverted papilloma isolated to the sphenoid sinus is rare. Patients typically present with headache, visual complaints, auditory symptoms, or nasal obstruction. We report an unusual presentation in which the chief complaint is a constant toothache. **STUDY DESIGN:** Case report. **METHODS:** We reviewed the medical records, radiographic, and histological findings of a patient with an inverted papilloma isolated to the sphenoid sinus. Recent literature, the patient's operative and postoperative courses were also examined. **RESULTS:** The chief complaint of this single case of isolated sphenoid sinus inverted papilloma was a constant, dull toothache. Sinus endoscopy was normal, but computed tomography demonstrated a left sphenoid sinus mass and an associated left maxillary sinusitis. Functional endoscopic sinus surgery was performed, with removal of the histologically confirmed inverted papilloma from the sphenoid sinus and a left maxillary sinus antrostomy. The patient's toothache resolved post-operatively. **CONCLUSIONS:** Inverted papillomas of the sphenoid sinus are a rare occurrence and have a malignant potential. Previous cases in the literature report headache, visual changes, auditory symptoms, nasal obstruction, and epistaxis as the presenting complaints. The clinical scenario is often nonspecific or even asymptomatic. There may be associated inflammation of the adjacent sinuses, producing symptoms that reflect these secondary locations. In this case, the patient had an associated maxillary sinusitis and presented with a chief complaint of toothache. Recognition of these unusual presentations is important in the timely management of inverted papillomas.

13. Chondrosarcoma of the Arytenoid: A Case Report and Review of the Literature

Stella Lee, BS, Philadelphia, PA
Anthony Sparano, MD, Philadelphia, PA
Ami Goradia, MD, Philadelphia, PA
Natasha Mirza, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand current methods of diagnosis and management of patients with chondrosarcoma of the larynx as well as be aware of the challenges presented by the location of this rare tumor in the arytenoid.

OBJECTIVES: Primary objective is to provide a case report of chondrosarcoma in the arytenoid to illustrate a unique patient presentation and useful techniques to detect these tumors. Additional objectives are to discuss current methods of diagnosis and management of chondrosarcoma of the larynx through a literature review and discussion of the histopathology. **STUDY DESIGN:** Case report and literature review. **METHODS:** Case report of a 56 year old woman with a locally aggressive chondrosarcoma of the right arytenoid. **RESULTS:** The patient was found to have extensive chondrosarcoma of the superior pole of the right arytenoid extending to the aryepiglot-

tic fold, piriform sinus, and the interarytenoid region of the myxoid variant. She required a tracheostomy at the end of the surgical resection due to a concern for post-operative laryngeal edema which could potentially compromise the airway. She had an uncomplicated postoperative course and was discharged home on postoperative day 2 with the tracheostomy tube in place. **Conclusions:** Chondrosarcomas of the larynx are uncommon but have an excellent prognosis if detected early due to their low grade histologically and rare incidence of metastasis. These tumors overall present diagnostic challenge due to their rare occurrence and indolent nature. More specifically chondrosarcoma of the arytenoid may present with few symptoms and a plaque-like lesion on laryngoscopic exam. Surgical removal with preservation of laryngeal function is recommended and can be accomplished by wide excision by endoscopic procedures, laryngofissure, thyrotomy, or a partial laryngectomy. Novel reconstruction techniques also make the preservation of laryngeal function possible.

14. Metastatic Renal Cell Carcinoma to the Base of the Tongue

Jason M. Leibowitz, BA, New York, NY
Seth J. Kanowitz, MD, New York, NY
Theresa N. Tran, MD, New York, NY
Kelvin C. Lee, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the potential for renal cell carcinoma, a common renal malignancy, to metastasize to the head and neck.

Objectives: Most malignancies of the head and neck are squamous cell carcinomas, but other types of cancer including distant metastatic disease can also manifest in this region. We present a rare case of renal cell carcinoma (RCC) metastatic to the base of the tongue (BOT) in a patient referred to a tertiary medical center for evaluation of dysphagia and a change in voice. We utilize this case report, with a review of the medical literature, to help clinicians understand the potential for metastasis of this common renal malignancy to the head and neck. **Study Design:** Retrospective case study of a patient with histologically confirmed renal cell carcinoma metastatic to the base of the tongue. **Methods:** Retrospective review of the record of a patient with RCC metastatic to the BOT and a review of the relevant literature. **Results:** A 42 year old man was referred to the otolaryngology service for evaluation of dysphagia and a change in voice of 5 week duration. Medical history was significant for stage IV RCC with metastasis to the right cerebellum diagnosed 1 year prior to admission and treated surgically with post-operative whole brain radiation, as well as a left-sided nephrectomy for the primary tumor 6 months prior to admission. On fine needle aspiration, the patient had metastatic RCC lesions to the BOT and the right neck, which were treated with a supraomohyoid neck dissection and transhyoid BOT resection. **Conclusions:** RCC metastatic to the tongue is a very rare phenomenon, with only a handful of cases reported in the literature. The two proposed mechanisms of distant spread include hematogenous and lymphatic routes. Although the overall prognosis is poor, we recommend surgical excision of the lesion for palliation of related symptoms.

15. Anatomic Characterization of the Genial Tubercle and its Implications When Planning Genioglossus Advancement Surgery for Obstructive Sleep Apnea

Allison D. Lupinetti, MD+, Albany, NY
Adrianna Hekiert, MD, Albany, NY
Arthur N. Falk, MD, Albany, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to demonstrate an understanding of the anatomy of the genial tubercle and its muscular attachments as well as its implications when planning genioglossus advancement surgery.

Objectives: To determine the dimensions of the muscular attachments to the genial tubercle, to identify topographic landmarks for the location of the genial tubercle, and to provide anatomic reference points for optimal placement of osteotomies intraoperatively. **Study Design:** Cadaveric study. **Methods:** Nine randomly selected human cadavers (6 female and 3 male) underwent dissection to isolate and evaluate the genioglossus muscle attachments to the anterior mandible. Measurements were made on intact and bisected mandible specimens. **Results:** The genial tubercle was grossly palpable and located between the two mandibular incisors in all cases. The average thickness of the mandible at the genial tubercle was 12.3mm. The average width of the genioglossus muscle was 6.7mm. The width of the genial tubercle was 8.2mm. The distance from the actual apex of the medial incisor to the genial tubercle was 15.4mm. The distance from the surface apex of the medial incisor to the genial tubercle was 16.2mm. The difference between the distance from the actual apex and the surface apex of the medial incisor to the genial tubercle was not significant ($p=0.44$). **Conclusions:** Obstructive sleep apnea is a common condition with serious health consequences. Genioglossus advancement is one surgical method of decreasing pharyngeal collapse during sleep. This study better defines anatomic reference points that can be used to more accurately locate the genial tubercle and more precisely place osteotomies.

16. Jugular Foramen Fibromatosis in a 3 Month Old Male

Dilip D. Madnani, MD, New Hyde Park, NY
David Myssiorek, MD, New Hyde Park, NY
Patricia G. Wasserman, MD, New Hyde Park, NY
Mark Mittler, MD, New Hyde Park, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to describe the histopathology of fibromatosis and discuss the differential diagnosis of jugular foramen masses in children.

Objectives: An unusual case of jugular foramen fibromatosis in a 3 month old male is presented. **Study Design:** Case study. **Methods:** Chart review. **Results:** A 3 month old male presenting with choking with feeds and a hoarse cry. Physical examination revealed left eye ptosis and asymmetric soft palate elevation. Fiberoptic examination showed a left vocal fold paresis and pooling of secretions in the pyriform sinuses. MRI showed an ill-defined lesion at the left jugular foramen extending into the left carotid sheath. Biopsy was positive for spindle shaped cells consistent with fibromatosis. **Conclusions:** Fibromatosis is a rare entity and its presentation in the head and neck presents a unique challenge due to the proximity of vital structures. This usually precludes complete resection in an infant.

17. Familial Non-Medullary Thyroid Cancer

Kimberly A. Moore, MD, New York, NY
Ashok R. Shaha, 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 issues related to the role of prophylactic thyroidectomy for familial non-medullary thyroid cancer.

Objectives: Medullary thyroid cancer is well known to be a familial disease. Genetic and familial evaluations are crucial. However, what remains unclear is whether there is any familial nature to papillary cancer of the thyroid. Various authors have reported an occasional familial incidence of papillary thyroid carcinoma. **Study Design:** We report here a family with six of eight siblings who have been diagnosed with papillary carcinoma of the thyroid; the thyroids of the two siblings without a diagnosis are under investigation. One individual with papillary thyroid carcinoma succumbed to the disease. **Methods:** We have performed a prophylactic total thyroidectomy for familial papillary thyroid cancer in a 56 year old gentleman with bilateral thyroid nodularity. **Results:** The final pathology report did reveal four foci of

papillary carcinoma of the thyroid. **Conclusions:** This presentation will discuss the current issues related to familial non-medullary cancer of the thyroid.

18. Papillary Thyroid Carcinoma—Cribriform-Morular Variant: A Clinical Curiosity

Kimberly A. Moore, MD, New York, NY
Ashok R. Shaha, MD*, New York, NY
Ronald A. Ghossein, MD, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to understand the relationship between the cribriform-morular variant of papillary thyroid carcinoma and familial adenomatous polyposis (FAP).

Objectives: There is a growing awareness of the association of papillary thyroid carcinoma and familial adenomatous polyposis (FAP). Although the incidence is one to two percent, the majority tends to occur in women. Several authors have described a distinctive histological variant of papillary thyroid carcinoma, the cribriform-morular variant, which is associated with FAP but also may be encountered in non-FAP patients. This variant is found almost exclusively in women and stains positively for estrogen and progesterone receptors. At times, this diagnosis can predate the symptoms of colorectal polyposis. **Study Design:** We report here a healthy 36 year old woman who presented with a left thyroid nodule suspicious for papillary carcinoma. **Methods:** The patient underwent a total thyroidectomy. **Results:** The final pathology report revealed papillary thyroid carcinoma, cribriform-morular variant. She will undergo further workup for colonic polyposis. **Conclusions:** This presentation will discuss our current understanding of the morular variant of papillary thyroid cancer and its association with familial adenomatous polyposis.

19. Staged Tympanostomy Tube Placement Facilitates Pediatric Cholesteatoma Management

Darryl T. Mueller, MD+, Philadelphia, PA
Roy Rajan, BA, Philadelphia, PA
Glenn C. Isaacson, MD FAAP FACS*, Philadelphia, PA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the proposed benefits of staged tympanostomy tube placement prior to definitive cholesteatoma removal in pediatric patients.

Objectives: To evaluate the effect of middle ear ventilation with or without adenoidectomy prior to definitive cholesteatoma surgery in children with concomitant middle ear effusion. **Study Design:** Retrospective case series. **Methods:** Among 40 children seen in follow-up after treatment for acquired or congenital cholesteatoma during a 3 year period, 8 had undergone staged tympanostomy tube placement with or without adenoidectomy. Computed tomograms were obtained after placement of tubes in all patients. Extent of disease by computed tomography, type of cholesteatoma surgery and number of revision procedures were recorded. **Results:** Three children had extensive congenital cholesteatoma, and 5 had acquired disease. Four underwent tube placement and adenoidectomy. Computed tomograms obtained after tube placement were able to accurately predict the location and extent of cholesteatoma involvement in each case. Six atticotomies, 1 canal-wall-down tympanomastoidectomy, and 1 radical mastoidectomy were performed. Seven children were cured with a single surgery; one required a revision mastoidectomy for control of recurrent disease. All are free of cholesteatoma. **Conclusions:** Tympanostomy tube placement with or without adenoidectomy prior to tympanomastoidectomy allows superior delineation of cholesteatoma extent and facilitates surgery in children with concomitant middle ear effusion. Adenoidectomy may improve eustachian tube function and decrease the risk of recurrent disease.

20. Rhinoscleroma-Differential Diagnosis for Chronic Sinusitis

Monica N. Okun, MD, New York, NY
Arnold Komisar, MD DDS*, New York, NY

Educational Objective: At the conclusion of this presentation, the participants should be able to demonstrate the differential diagnosis for chronic sinusitis and have a high clinical suspicion for rhinoscleroma in patients with history of immigration from endemic areas and with characteristic lesions on examination.

Objectives: To present a case report of rhinoscleroma in an immigrant patient who was previously treated for chronic sinusitis. To review the literature of the chronic granulomatous disease which is rare in the United States, but endemic in South and Central America, Asia, and Africa. **Study Design:** Case report and literature review. **Methods:** Case report and literature review. **Results:** Rhinoscleroma caused by Klebsiella rhinoscleromatis, a gram negative rod, requires long term antibiotics and follow-up. After a complete course of ciprofloxin, our patient continues to be followed biannually for symptomatic changes and endoscopy. Literature search reveals that 15-80% of patients will have extranasal manifestations of rhinoscleroma including the lethal tracheal obstruction. **Conclusions:** Rhinoscleroma is a rare chronic granulomatous disease which primarily presents in the nose with possible lesions in the oropharynx, larynx, and trachea. A high index of suspicion is needed to properly diagnose rhinoscleroma through culture, biopsy and endoscopy.

21. Role of Posterior Laryngoplasty in the Management of Abductor Spasmodic Dysphonia

Amy L. Reynders, MD+, Syracuse, NY
Richard T. Kelley, MD, Syracuse, NY

Educational Objective: At the conclusion of this presentation the participants should be able to understand the difficulties in treating abductor spasmodic dysphonia and be aware of methods for optimizing treatment.

Objectives: Present a patient with abductor spasmodic dysphonia who was unsuccessfully managed by botulinum toxin A (BOTOX A) injections to the posterior cricoarytenoid (PCA) muscles via a percutaneous approach. Demonstrate the potential anatomic difficulties associated with PCA injections. Determine if posterior laryngoplasty has a potential role in the management of abductor spasmodic dysphonia. **Study Design:** Case report of a patient with abductor spasmodic dysphonia. **Methods:** One patient initially underwent seven separate BOTOX A injections into the PCA muscles over an 18 month period. Due to the size of the patient's thyroid cartilage, it was difficult to manually rotate the larynx and readily obtain PCA activation during EMG monitoring prior to BOTOX A injections. The percutaneous lateral neck approach was necessary as the patient had significant cricoid calcification which precluded a transcricoid approach. The patient underwent bilateral posterior laryngoplasties with a right posterior thyroid window and extended left posterior thyroid cartilage removal with subsequent partial left PCA myectomy. Post-operative CT scan of the larynx revealed the portions of the thyroid cartilage removed during laryngoplasty. The patient's neck was tattooed to facilitate the location of the windows for PCA muscle access during future BOTOX A injections. **Results:** After the simultaneous bilateral posterior laryngoplasties and partial left PCA myectomy, the patient developed post-operative stridor necessitating tracheostomy for airway protection. The patient was eventually decannulated two weeks later. Two BOTOX A injections to the PCA muscles since surgery have been technically easier with more reliable EMG PCA activity and improved clinical response to BOTOX A. **Conclusions:** Abductor spasmodic dysphonia can be difficult to treat with BOTOX A injections due to posterior laryngeal anatomy and access to the PCA musculature. Posterior laryngoplasty can be a useful procedure to facilitate access to the PCA muscle. Given the potential for airway compromise, unilateral procedures with possible myectomy should be considered.

22. Propionibacterium Acnes: A Cause of Chronic Cervical Lymphadenitis

Eric J. Roffman, MD, Newark, NJ
Soly Baredes, MD*, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to recognize propionibacterium acnes as a possible pathogenetic cause of chronic cervical lymphadenitis and hence, include this pathogen in the differential diagnosis when evaluating a reactive neck mass.

Objectives: To report the first two cases of cervical lymphadenitis caused by P. acnes documented in the English literature. **Study Design:** Case series. **Methods:** The clinical presentation, evaluation, and management of two cases of cervical lymphadenitis caused by P. acnes are reviewed. **Results:** Patient #1: 31 year old male with a non-fluctuant right neck mass refractory to medical treatment for 7 months. Patient #2: 43 year old male with an 8 month history of a fluctuant right neck mass. It began shortly after a shaving injury and remained refractory to medical treatment. FNA's revealed inflammatory processes in both patients. Surgical excision was performed on patient #1. I&D was performed on patient #2. Final cultures revealed propionibacterium acnes in both cases. **Conclusions:** Cervical lymphadenitis is a condition known to be caused by various infectious agents. The most common of these are staph aureus, streptococci, actinomycosis, Bartonella henselae (cat scratch disease), EBV, fungal, mycobacterium tuberculosis, atypical mycobacteria, and sarcoidosis. Propionibacterium acnes belongs to the normal cutaneous flora of humans and is recognized primarily as the pathogenetic cause of acne vulgaris. There have been few anecdotal reports of noncutaneous localized infections caused by these gram-positive anaerobic bacteria. Although no other cases of cervical lymphadenitis caused by P. acnes have been documented in the English literature, this bacterial pathogen appears to be a more common cause of cervical lymphadenitis than the literature incurs and possibly necessitates surgical intervention regarding its management. It should be considered in the differential diagnosis when evaluating a reactive neck mass that is refractory to standard medical treatment.

23. Giant Fibrovascular Polyp of the Hypopharynx

Rasesh P. Shah, MD, Newark, NJ
Soly S. Baredes, MD*, Newark, NJ
Jose Zevallos, BS, Newark, NJ

Educational Objective: At the conclusion of this presentation, the participants should be able to evaluate, diagnose and treat giant fibrovascular polyps of the hypopharynx.

Objectives: To discuss the clinical presentation, evaluation, treatment and pathologic findings of giant fibrovascular polyps of the hypopharynx. **Study Design:** Retrospective review of a patient with a giant fibrovascular polyp of the hypopharynx with a literature review. **Methods:** The presentation, evaluation, treatment and pathologic findings are discussed. **Results:** A 40 year old female presented with a one month history of progressive dysphagia and gastroesophageal reflux. Evaluation revealed a large pedunculated mass extending from the hypopharynx to the gastroesophageal junction. Endoscopic attempts to mobilize and excise the mass were unsuccessful and a lateral pharyngotomy was subsequently performed. The polypoid mass was noted to have a pedicle from the left side of the pharyngeal wall with pathology revealing a 15 x 4 x 3.5 cm giant fibrovascular polyp with ulceration. The patient was tolerating a regular diet seven days after excision. **Conclusions:** Giant fibrovascular polyps are rare entities that are often undiagnosed until quite sizable, despite symptoms of dysphagia, syncope and reflux disease. They are benign masses with significant morbidity and potentially catastrophic airway complications. The clinical presentation and radiologic findings should provide a timely diagnosis. Endoscopic excision is the preferred method for small polyps, but we discuss the open approach with a lateral pharyngotomy necessitated by a large mass. A literature review will be discussed.

24. Neck Lymphadenopathy Due to Castleman's Disease

Jeffrey H. Spiegel, MD, Boston, MA
Teresa V. Chan, MD, Boston, MA (*Presenter*)
Carolyn A. Dahlen, BS, Boston, MA

Educational Objective: At the conclusion of this presentation, the participants should be able to discuss the diagnosis and management of Castleman's disease—a rare lymphoproliferative disorder.

Objectives: (1) Present the characteristics of the three main pathologic variants of Castleman's disease and their diagnostic criteria; 2) review the several different likely outcomes for patients with Castleman's disease—which range from complete recovery to rapid progression and death; 3) report a patient with an unusual presentation of Castleman's disease—as a neck mass. **Study Design:** Literature review and case report. **Methods:** A comprehensive literature review on Castleman's disease was done, and a detailed report of Castleman's disease presenting as a neck mass is provided. **Results:** Castleman's disease (CD) was first described less than 50 years ago and has three primary pathologic variants. While the hyaline vascular CD commonly presents with asymptomatic localized disease occurring in the lymph nodes, the plasma cell variant has been associated with systemic disease and clinical signs of fevers, night sweats, and hepatosplenomegaly. Localized CD develops in younger patients (third decade) where the most common sites of presentation include the mediastinum and the hilum of the lung. The clinical course is generally benign and surgery is curative. Multicentric CD affects older patients (sixth decade) and has been associated with generally lymphadenopathy and laboratory abnormalities including an elevated erythrocyte sedimentation rate, a polyclonal hyperglobulinemia, and anemia. The clinical course for multicentric CD can vary from a chronic form of the disease to a rapidly progressive form associated with overwhelming infection or associated malignancy. **Conclusions:** Castleman's disease is a rare but important lymphoproliferative disorder which can present as a neck mass. As some variants are easily cured and others rapidly progressive, knowledge of the details of this disorder are important for the otolaryngologist.

25. Tricholemmoma of the Nose

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 1) identify clinical presentations of tricholemmoma; 2) discuss the characteristics of Cowden's syndrome and the relationship between this syndrome and tricholemmoma; and 3) differentiate tricholemmoma from other superficial cutaneous tumors such as basal cell carcinoma and granulomas.

Objectives: 1) To familiarize meeting participants with tricholemmoma—an unusual cutaneous neoplasm often misdiagnosed and thus treated incorrectly; 2) to present an unusual presentation of tricholemmoma as a nasal mass; 3) to summarize the characteristics of Cowden's syndrome and its association with tricholemmoma. **Study Design:** Literature review and case report. **Methods:** Literature review of tricholemmoma and case report of an unusual manifestation of this neoplasm. **Results:** Tricholemmoma was first described as a cutaneous neoplasm in 1962. It is associated with Cowden's syndrome and can be misdiagnosed as a more aggressive cutaneous malignancy. We report an unusual case of tricholemmoma presenting as a nasal mass. **Conclusions:** While not very common, tricholemmoma has a predilection for the head and neck. Otolaryngologist-head and neck surgeons must be familiar with this neoplasm as it can be frequently misdiagnosed as an aggressive cutaneous malignancy and hence incorrectly treated. We describe the presentation and diagnosis of tricholemmoma, describe the frequent association of this neoplasm with Cowden's syndrome, and report an unusual presentation of tricholemmoma as an intranasal mass.

26. A Case of Benign Mixed Tumor of the Parotid Gland Metastasizing to the Contralateral Mediastinum

Natalie P. Steele, MD, New York, NY
Roy B. Sessions, MD*, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the unique clinical presentation of benign metastasizing mixed tumors of the salivary glands. Participants should be able to understand that this is an interesting and distinct rare clinical entity.

OBJECTIVES: Benign mixed tumors are the most common salivary gland tumors and are typically cured with complete surgical excision. There are rare reports, however, in which these histologically benign tumors have inexplicably metastasized to distant sites. We present a unique case of a patient who presented 27 years after excision of a parotid benign mixed tumor with a recurrence in the parotid bed and a contralateral mediastinal metastasis. **STUDY DESIGN:** Case report. **METHODS:** A 43 year old female presented with a mass in the right parotid bed 27 years after excision of a benign mixed tumor of the parotid. The patient's presentation, workup and final diagnosis of benign metastasizing mixed tumor will be discussed along with a review of the literature. **RESULTS:** A diagnosis of recurrent benign mixed tumor was made from a fine needle aspirate of the right parotid mass. On a subsequent CT scan, chest images revealed an incidental 5.5 x 4cm mass in the left superior mediastinum. Cytologic analysis of a CT-guided fine needle aspiration of the mediastinal mass confirmed a diagnosis of metastatic benign mixed tumor. The patient underwent sternotomy with excision of the mediastinal mass and a completion parotidectomy. Review of the surgical specimens confirmed a diagnosis of benign mixed tumor in both the parotid and the mediastinal mass. Since no histologic characteristics of malignancy were seen in either specimen, a final diagnosis of benign metastasizing mixed tumor was rendered. **CONCLUSIONS:** Benign metastasizing mixed tumor is a rare and controversial but distinct clinical entity. Benign metastasizing mixed tumors may in fact be yet unclassified low-grade salivary gland malignancies, but this has not been determined. Patients typically present with local recurrence and metastasis decades after excision of a primary benign mixed tumor. Although the definition of the term benign precludes metastatic disease, these tumors do not demonstrate any malignant histologic features, yet inexplicably metastasize to distant sites. Treatment includes resection of the recurrence and metastasis, if accessible, with a generally favorable prognosis.

27. The Use of Surgical Loupes for Unilateral Vocal Fold Injection

Jacob D. Steiger, MD, Philadelphia, PA
Natasha Mirza, MD, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand a different approach to performing vocal fold injections.

OBJECTIVES: Standard magnification in laryngeal surgery has been accomplished with the operating microscope. In fact, the microscope is mandatory for vocal fold surgery requiring high power magnification. However, macro-microsurgery can be accomplished with the use of a long endoscope or using the microscope at low power. We introduce a cost efficient alternative that provides low power magnification in laryngeal surgery using 2.5x magnification surgical loupes. **STUDY DESIGN:** A retrospective chart review. **METHODS:** This is a retrospective review of 10 patients that underwent unilateral vocal fold medialization with injection by the same surgeon. Surgical length and total time in the operating room was then evaluated. This data was then compared in patients that underwent the same procedure using the long endoscope and surgical loupes at 2.5x magnification. **RESULTS:** Successful unilateral vocal cord injection was accomplished using the long endoscope and surgical loupes. The patients reviewed consisted of 6 patients who underwent medialization using the long endoscope and 4 patients using surgical loupes. It took an average of 14.5 minutes to complete the operation using the long endoscope, and it took an average of 13 minutes to complete using surgical loupes. In addition, total OR time, including preparation, averaged 50 minutes using the endoscope and 47 minutes using surgical loupes. **CONCLUSIONS:** The use of surgical loupes for magnification in unilateral vocal cord medialization surgery provides a viable alternative to using the operating microscope or the long endoscope. Loupes provide the surgeon with a good field of view, adequate magnification, and the ability to use both hands during surgery.

28. Giant Cell Tumor of the Maxilla in a Patient With Paget's Disease of the Bone

Rebecca S. Stone, MD, Boston, MA
Joshua D. Weissman, MSIII, Boston, MA
Gregory A. Grillone, MD, Boston, MA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to 1) demonstrate clinical presentation, histopathologic characteristics, and management options for a giant cell tumor in patients with Paget's disease of bone; and 2) compare to other similar giant cell "lesions" with emphasis on the distinguishing clinical and histopathologic features, and treatment.

OBJECTIVES: We present the case of an 82 year old woman with long-standing Paget's disease of bone and diabetes mellitus with a soft, fleshy mass in the maxilla, biopsy proven to be a giant cell tumor. We review the literature on the clinical presentation, histopathologic characteristics, and management options for this entity. We also present a review of the literature on the most similar giant cell "lesions" with emphasis on the distinguishing clinical and histopathologic features, and treatment options. **STUDY DESIGN:** Case report and review of the literature. **METHODS:** Medline was searched by "giant cell lesions" or "giant cell tumors" and crossed with "Paget's disease" to obtain all articles involving both entities in the head and neck. These were then compared to articles under search terms: "giant cell granulomas", "Brown tumors", and "reparative giant cell granuloma". **RESULTS:** Giant cell tumor is a rare neoplasm of multinucleated osteoclasts. Giant cell tumors can co-occur with Paget's disease of bone. This combination is even more rare and manifests more commonly in the facial bones or skull. Giant cell "lesions" encompass a variety of different lesions which may vary with regard to age of presentation, clinical signs and symptoms, radiographic appearance, histologic appearance, and management. These lesions may include giant cell tumors (in Paget's disease of bone or not), Brown tumors (of hyperparathyroidism), and reparative giant cell granulomas. **CONCLUSIONS:** Giant cell lesions in patients with Paget's disease often present to otolaryngologists since so many are of the facial/skull bones and therefore otolaryngologists must be knowledgeable about this disease entity.

29. Incision and Drainage of Retropharyngeal Abscess Located Adjacent to C1 With InstaTrak Image Guidance

Amar C. Suryadevara, MD, Syracuse, NY
Robert M. Kellman, MD, Syracuse, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the use of image guidance in treating difficult to reach deep neck space infections.

OBJECTIVES: Abscess formation in the deep neck space has many potential complications including arterial erosion, venous thrombosis, mediastinitis, pharyngeal rupture, and intracranial spread. It requires incision and drainage when intravenous antibiotics fail. The surgical approaches vary depending on the location and size of the abscess, as well as clinical preference. Image guidance can be a very powerful tool for intraoperative localization and minimally invasive approach for abscess incision and drainage. **STUDY DESIGN:** Case report, 5 year old male with an abscess found to be in the extreme lateral retropharyngeal space superiorly at the skull base. **METHODS:** InstaTrak image guidance aided in the incision and drainage of a retropharyngeal abscess. A preoperative CT scan of the head and neck was obtained with headset markers in place. Following induction with anesthesia in the operating room, the InstaTrak headset was placed on the patient and the system was calibrated. This allowed for electromagnetic tracking technology to project three dimensional coordinates of instrument location within the patient's head and neck area onto preoperative CT images on a computer screen. **RESULTS:** An abscess pocket was encountered on the left in the area of the skull base, adjacent to C1. Culture results were consistent with Prevotella species, which are anaerobic gram negative rods. Patient improved following the procedure and was discharged home on postoperative day two. **CONCLUSIONS:** Image guidance provided a more dependable and minimally invasive approach for incision and drainage of a difficult to reach abscess.

30. Solitary Adult Myofibroma of the Nasal Tip

Stephen J. Tai, BS, Philadelphia, PA

Ryan N. Heffelfinger, MD, Philadelphia, PA
Edmund A. Pribitkin, MD*, Philadelphia, PA

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to differentiate solitary adult myofibromas from other spindle cell tumors and outline an appropriate course of conservative surgical therapy for these lesions.

OBJECTIVES: To describe the typical presentation, pathological diagnosis and appropriate management of adult cutaneous myofibroma. **STUDY DESIGN:** Single case report. **METHODS:** A retrospective chart review of a patient with a solitary adult myofibroma of the nasal tip coupled with a review of the Medline literature (1960 to date). **RESULTS:** A 33 year old male presented with a gradually enlarging, painless, firm nodule of the nasal tip which had been identified as a spindle cell tumor on incisional biopsy. He underwent conservative resection with paramedian forehead flap reconstruction. Microscopically, the lesion demonstrated a proliferation of spindle cells with a background network of small vessels. A diagnosis of myofibroma was made through immunohistochemistry which was diffusely and strongly positive for actin and negative for desmin and S-100 protein. **CONCLUSIONS:** Solitary cutaneous myofibromas commonly present in the head and neck and must be distinguished immunohistochemically from similar spindle cell neoplasms such as hemangiopericytomas, leiomyomas, neurofibromas and dermatofibromas. Conservative surgical resection with lifelong follow-up is recommended.

31. Bilateral Intraparenchymal Parotid Calculi as an Initial Presentation for Sjogren's Syndrome
Scott K. Thompson, MD, Rochester, NY
Saurin Popat, MD, Rochester, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to describe common otolaryngologic manifestations of Sjogren's syndrome and understand that parotid gland stones in an otherwise healthy individual may be indicative of a systemic process.

OBJECTIVES: Very few reports of intraparenchymal parotid stones exist in the literature, and to our knowledge no such cases have been described in association with a diagnosis of Sjogren's syndrome. In order to add to the body of literature on this topic as well as to illustrate the fact that isolated clinical findings often are manifestations of systemic disease, we present a case of acute suppurative parotitis with bilateral intraparenchymal stones as an initial presentation for Sjogren's syndrome. **STUDY DESIGN:** Case report. **METHODS:** Case report and review of the literature. **RESULTS:** A 41 year old otherwise healthy female presented to our emergency department with severe unilateral suppurative parotitis. Although the patient's condition resolved with appropriate medical intervention, she developed recurrent episodes only temporarily responsive to antibiotics. Further workup revealed diffuse bilateral intraparenchymal stones. Rheumatologic evaluation demonstrated findings consistent with Sjogren's syndrome. Along with medical management of her Sjogren's disease, the patient eventually underwent superficial parotidectomy for recurrent suppurative parotitis. **CONCLUSIONS:** While intraparenchymal parotid gland stones are very uncommon and have only rarely been described in the literature, in the absence of additional medical conditions these stones might be indicative of systemic pathology. This case illustrates such a scenario and reinforces the fact that otolaryngologists need to be vigilant in the evaluation and management of what may appear to be isolated head and neck problems.

32. Isolated Tympanic Plate Fracture Following Mandibular Condyle Dislocation: A Case Report
Konstantin Vasyukevich, MD, Bronx, NY
Jimmy Lee, MD, Bronx, NY
Egbert J. de Vries, MD FACS, Bronx, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss evaluation of facial trauma associated with ear canal bleeding, diagnose a tympanic plate fracture based on its clinical presentation and appearance on the CT scan and explain the mechanism of a fracture.

OBJECTIVES: To present a case of a posterior mandibular condyle dislocation that resulted in an isolated unilateral tympanic bone fracture and to discuss clinical presentation, imaging studies, and relevant anatomy of this unusual fracture. **STUDY DESIGN:** Case report and review of the medical literature. **METHODS:** A review of all, available through Medline, cases of posterior dislocation of mandibular condyle associated with the fracture of the tympanic plate. **RESULTS:** A review of medical literature resulted in five articles reporting cases of mandibular condyle dislocation into external ear canal. Tympanic plate fracture usually presents with bleeding from external auditory canal and severely restricted mandibular motion. Posterior mandibular condyle dislocation is typically associated with either condyle or mandibular body fractures. We report a case of a posterior mandibular condyle dislocation resulting in an isolated unilateral tympanic plate fracture. To our knowledge, we believe this to be the only case in the literature of a tympanic plate fracture not associated with severe jaw immobility or a mandibular fracture. **CONCLUSIONS:** Isolated tympanic plate fractures following mandibular condyle dislocation are rare occurrences. However, the presence of bleeding from the ear canal following facial trauma should suggest to the otolaryngologist the possibility of a tympanic plate fracture, even in the absence of mandibular fracture or immobility.

33. Intraoperative Evaluation of a Pulsatile Oropharyngeal Mass During Adenotonsillectomy
Jared M. Wasserman, MD, Brooklyn, NY
Salvatore J.A. Sclafani, MD, Brooklyn, NY
Nira A. Goldstein, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the acute, intraoperative management of a suspected internal carotid artery injury during routine pharyngeal procedures and compare the protocol to the accepted paradigm relating to penetrating neck trauma.

OBJECTIVES: Iatrogenic injury to the internal carotid artery (ICA) is a rare complication of pharyngeal surgery that most commonly occurs in children with an anomalous course to the ICA. Most aberrant arteries are asymptomatic and remain undiscovered preoperatively. This report describes a case where intraoperative evaluation was required to rule out injury to an undiagnosed aberrant ICA during adenotonsillectomy and to review the existing literature. **STUDY DESIGN:** Case report and literature review. **METHODS:** A review of the normal embryology and anatomy of the internal carotid artery. In addition, literature dealing with penetrating neck trauma is reviewed and applied to the case presented. **RESULTS:** A 7 year old boy with documented obstructive sleep apnea presented for elective adenotonsillectomy. The adenoid pad was found to extend inferiorly to the level of the superior tonsil poles. The adenoids were removed by curettage, the nasopharynx was packed and an uneventful tonsillectomy was performed. After removal of the nasopharyngeal packs, a pulsatile mass was observed in the posterior oropharynx to the left of midline. Adenoid bleeding was controlled with difficulty. Due to the proximity of the pulsation to the adenoid bleeding, an emergent carotid angiogram was obtained prior to extubation. Although no extravasation of contrast or ICA aneurysm was found, a distinct curving of the bilateral ICAs approaching the pharyngeal midline was noted. No intervention was necessary and the patient recovered uneventfully. **CONCLUSIONS:** This is the first report of the acute evaluation of a potential ICA injury during adenotonsillectomy with presentation of a management paradigm.

34. Hemangiopericytoma of the Lacrimal Sac
Rhoda Wynn, MD, Brooklyn, NY
Christopher S. Song, MD, Brooklyn, NY
Krishnamurthi Sundaram, MD, Brooklyn, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to describe the presentation of lacrimal sac tumors and be familiar with

hemangiopericytomas.

OBJECTIVES: Hemangiopericytomas are rare tumors with low malignant potential. The tumor is composed of cells from the pericytes of Zimmerman. The aim of this report is to discuss a case of a hemangiopericytoma of the lacrimal sac and to familiarize physicians with this unusual neoplasm. **STUDY DESIGN:** Case report and review of the literature. **METHODS:** A 59 year old male presented with epiphora which progressively worsened over a period of 6 months. He subsequently developed fullness in the region of the medial canthus. MRI and CT scan of the orbits were performed and showed a mass in the right lacrimal sac extending down into the nasolacrimal duct. **RESULTS:** Biopsy of the mass revealed a low grade hemangiopericytoma. The patient subsequently underwent right lacrimal sac excision and partial maxillectomy. The margins were all free of tumor on final pathology. **CONCLUSIONS:** Hemangiopericytoma, an uncommon soft tissue neoplasm, rarely originates in the lacrimal sac. Total excision with the surrounding tissue appears to be the treatment of choice for this tumor.

35. An Intranasal Tooth Presenting as Unilateral Nasal Obstruction and Rhinorrhea: A Case Report and Review of the Literature

Daniel M. Zeitler, MD, New York, NY
Seth J. Kanowitz, MD, New York, NY
Kelvin C. Lee, MD, New York, NY
Richard A. Lebowitz, MD, New York, NY

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to understand and evaluate the presentation, diagnosis, and management of ectopic teeth in the nasal cavity.

OBJECTIVES: Most nasal masses in adults are either infectious or neoplastic in origin. We present an unusual case of an ectopic tooth that presented as an intranasal mass in an adult. We highlight the patient's presentation, examination, and management, and contrast this case with other reports in the medical literature. **STUDY DESIGN:** Retrospective case study. **METHODS:** A report of a 43 year old female with a multiple year history of unilateral nasal discharge and obstruction who presented with a nonspecific calcified intranasal mass and an overlying actinomyces superinfection. **RESULTS:** Physical exam including rigid and flexible nasal endoscopy demonstrated the presence of a firm intranasal mass with surrounding necrotic tissue. Subsequent computed tomographic scan of the paranasal sinuses confirmed the presence of this calcified mass limited to the left nasal cavity, which was successfully managed with endoscopic removal under anesthesia. Pathology confirmed the specimen to be a rudimentary intranasal ectopic tooth. **CONCLUSIONS:** Although the finding of ectopic teeth is not a rare phenomenon, only a few cases of intranasal ectopic teeth have been reported in the literature. Whether an intranasal tooth is found incidentally on examination or diagnosed in a symptomatic patient, early surgical extraction is advocated to avoid infectious complications. The preferred extraction method is via nasal endoscopy, and collaboration with an oral surgeon is suggested when alterations in the dental framework are anticipated.

36. Intracranial Complications of Sinusitis in the Pediatric Population: Is There an Increasing Incidence?

Jose P. Zevallos, BA, Newark, NJ
Huma Quraishi, MD, Newark, NJ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to 1) discuss predisposing factors associated with intracranial complications of sinusitis in the pediatric population; and 2) discuss the possible increase in the incidence of intracranial complications of sinusitis in the pediatric population.

OBJECTIVES: 1) To identify factors that predispose individuals to sinogenic intracranial complications; and 2) to identify factors that may explain the increasing number of cases of sinogenic intracranial complications in the pediatric population. **STUDY DESIGN:** Retrospective chart review and review of literature. **METHODS:** A retrospective chart review was conducted using ICD-9 codes to identify pediatric patients treated for complications of sinusitis at university hospital (UH) from 1996 to 2004. Data were extracted on: age, gender, history of present illness, past medical history, insurance status, and access to care. **RESULTS:** Twelve patients were identified that fit the criteria for this study. The mean age of these patients was 14.1 years and 10 patients were male (83.3%). Four of the patients had a past medical history of sinusitis, 3 had allergic rhinitis, and 2 had asthma. The most common presenting complaints were fever, headache, and altered mental status. Four patients had Medicaid, four had a private HMO, 2 were self-pay, 1 had Medicaid HMO, and one was unknown. Ten of the 12 patients (83%) saw a physician in the week prior to admission to the hospital. Four cases were identified between 1996 and 2000, whereas 8 cases were identified to date between 2001 and 2004. **CONCLUSIONS:** We have noted an increasing number of cases of sinogenic intracranial complications in the pediatric population at our institution. Similar findings have also been reported by another group. Possible reasons for this trend, including changes in diagnostic imaging criteria, are discussed.

37. Laryngocutaneous Fistula Caused by Self-Excoriation in an Elderly Patient With Atopic Dermatitis

Jose P. Zevallos, BA, Newark, NJ
Soly Baredes, MD*, Newark, NJ

EDUCATIONAL OBJECTIVE: At the conclusion of this presentation, the participants should be able to discuss the presentation, diagnosis, and management of the first report of laryngocutaneous fistula caused by self-excoriation.

OBJECTIVES: To present the clinical presentation, diagnosis, and surgical management of the first report of laryngocutaneous fistula caused by self-excoriation. **STUDY DESIGN:** Case report and review of the literature. **METHODS:** The clinical presentation, diagnosis, and surgical approach are reviewed. **RESULTS:** A 71 year old woman presented with a two year history of atopic dermatitis attributed to a cat allergy. She states that severe itching and vigorous scratching caused her to develop ulcerations and scarring throughout her body. She complained of an air leak in her neck. She denied a history of psychiatric illness and was unwilling to discuss a psychiatric evaluation. On physical exam, a transcutaneous fistula was noted at the level of the cricothyroid membrane, as well as an area of exposed thyroid cartilage. The fistula was closed with local flaps. **CONCLUSIONS:** Atopic dermatitis is a common dermatological condition characterized by chronic inflammation of the skin and intense pruritus. Excoriation of the skin caused by vigorous scratching is a complication of atopic dermatitis that can result in scarring and secondary infection. Self-excoriation resulting in significant morbidity is more often associated with psychiatric illness such as severe depression, obsessive-compulsive disorder, pathological skin picking, and psychogenic excoriation. There are reports of self-excoriation resulting in osteomyelitis of the skull vault, epidural abscess, and severe dermatological infection. To the best of our knowledge, there are no previous reports of self-induced laryngocutaneous fistula.