**Presenter:** Anmol S. Chattha, BA  
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**INTRODUCTION:** Unplanned reoperation, specifically for free flap compromise, following head and neck reconstruction can exert a significant toll on the healthcare system and its resources. The timing of the different indications for reoperation remains to be elucidated. Given that the National Surgical Quality Improvement Program (NSQIP) groups all causes of unplanned reoperations into a single variable, we aim to identify the rates and timing of various indications for reoperation and the independent predictors of head and neck free flap compromise.

**METHODS:** A retrospective review of all patients who underwent head and neck free flap reconstruction for a malignant head and neck lesion was done in the ACS-NSQIP database 2012–2014. CPT codes 15756, 15757, and 15758 were identified to determine free flap reconstruction. Preoperative demographics, intraoperative variables and postoperative surgical morbidities were identified. Manual identification of ICD-9 codes allowed for determination of cause of reoperation. Subgroup analysis of mean time to reoperation was performed. Multivariate logistic regression was used to identify the independent predictors of unplanned free flap reoperation in the head and neck free flap population. An increased operative time was defined as >75%-tile (612 minutes).

**RESULTS:** From 2012–2014, a total of 300 patients underwent head and neck free flaps. 62 patients (20.7 percent) underwent an unplanned reoperation. Most common reasons for unplanned reoperation were hematoma (19.4%), flap failure (19.4%) and a systematic vascular reason (17.7%). Mean time to reoperation was earliest in the hematoma cohort (4.33 ± 6.11 days) and flap failure cohort (4.92 ± 7.37 days). Latest time to reoperation was in the infection cohort (14.00 ± 4.85 days) and dehiscence cohort (13.50 ± 5.57 days). On multivariate logistic regression, independent risk factors for unplanned free flap reoperation (p < 0.05) included an ASA >3 [adjusted OR, 6.04 (95 percent CI, 1.40 to 26.07), adjusted p = 0.022] and an increased operative time in minutes [adjusted OR, 5.21 (95 percent CI, 1.54 to 17.64), adjusted p = 0.009].

**CONCLUSION:** National data indicates that complication rates are high in head and neck reconstruction for malignancy. Patients with independent risk factors for reoperation should be monitored more closely to reduce the severity of these complications. Development of a clinical risk calculator may help patient decision making by tailoring information on risk of complications.

**Botox Salvage of Ischemic Hand Trauma**  
**Presenter:** Gregory Borah, MD, DMD  
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**INTRODUCTION:** Effective use of botulinum toxin A (Botox) to improve blood flow in difficult to manage chronic vasospastic disorders of the hand, such as in Reynaud’s disease and scleroderma has been appreciated for several years. Botox’s efficacy in salvaging ischemic loss in digits in acute traumatic and iatrogenic injury has not been previously reported.

**MATERIALS AND METHODS:** From February 2015 to December 2016, 11 patients at our Level 1 Trauma Center presented to the hand surgery service with early or late ischemic injury and vascular compromise to one or more fingers as a result of crush injury, direct drug injection or proximal arterial injury from use of the radial artery in catheterization. This group was precluded from treatment with intravenous thrombolytic agents because of poly-trauma, contraindicated medical illness, or pregnancy. Prior to 2015, all patients with vascular compromise (mottling, coolness to touch, diminished capillary refill, resting pain) were treated with a protocol of aspirin, protective dressings and a warm milieu. Starting in January 2016 patients were treated with injection of 80–100 units of Botox into the palm in addition to our previous standard protocol.

**RESULTS:** From February to December 2015, six (6) patients with vascular compromise (mottling, coolness to touch, diminished capillary refill, resting pain) to one or more fingers were treated with a protocol of aspirin, protective dressings and a
warm milieu. With this regimen 5 of 6 patients (17% salvage) went on to partial or complete amputation of necrotic digits. The one patient who retained their affected finger has continued with ischemic pain (5/10 score) in the digit.

Starting in January 2016 five patients with ischemic sequelae were treated with 80–100 units of Botox (into the palm and adjacent to radial and ulnar arteries) added to our standard protocol. All digits (6 fingers in 5 pts) were preserved (100% salvage). One patient had digital pain (3/10 score) with a warm, pink finger.

**CONCLUSION:** 1) In the acute phase of traumatic vascular hand injury Botox injection can markedly increase digital salvage rates. 2) Increased perfusion resulting from Botox injection appears to improve post injury pain scores. 3) Early consideration and use of Botox in traumatic injuries is our standard approach to impending ischemic necrosis in the hand.

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Achieving a Balanced Nasal Profile in Patients with Pseudo-Hump:
Conservative Hump Reduction and Modified Spreader Graft for Augmentation of the Dorsum and Tip

**Presenter:** Jihyeon Han, MD

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**INTRODUCTION:** Correction of the hump nose entails more than just simple elimination of the dorsal hump. Recent trend is toward conservative reduction of the hump and appropriate adjustment of the radix height. East Asians often present with pseudo-hump, due to underprojected radix or tip, which accentuates the height of the hump. This study introduces our method of pseudo-hump correction and achieving a balanced nasal profile with minimal reduction of the hump and augmentation of the dorsum and tip with a modified extended spreader graft.

**METHODS:** A retrospective review was conducted of 97 consecutive cases of Korean patients undergoing hump reduction with simultaneous augmentation of the radix with resected hump fragment, and augmentation of the nasal dorsum with modified spreader grafts with septal extension. No implants were used in any of the patients. Anthropometric analysis was performed and patient satisfaction was evaluated at postoperative 1-year. Average follow-up period was 15 months.

**RESULTS:** Postoperatively, hump was eliminated and the dorsum and tip were successfully elevated using only autologous septal cartilage. The radix was augmented without surface irregularity or graft visibility. Nasal dorsum, tip, and radix projection, increased significantly after surgery. Subjective evaluation revealed a high level of satisfaction in 84 percent, and improvement in the rest of the patients.

**CONCLUSION:** Our multi-purpose bilateral extended spreader graft positioned above the septal plane was effective in dorsal and tip augmentation without the need for alloplastic material. Radix augmentation was an important component of our conservative approach towards hump reduction combined with augmentation of the relatively deficient areas of the nose to produce a balanced nasal profile.

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Assessment of Functional Closed and Open Rhinoplasty with Spreader Grafting Using Acoustic Rhinomanometry and Validated Outcome Measurements

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**INTRODUCTION:** Rhinoplasty is one of the most commonly aesthetic and reconstructive plastic surgical procedures performed within the United States. Yet, data on functional reconstructive open and closed rhinoplasty procedures with or without for spreader graft placement are not definitive as only a few studies have examined both validated measurable objective and subjective outcomes of