abdominally-based breast reconstruction free flaps, blood gas samples from the deep inferior epigastric vein (DIEV) and the superficial inferior epigastric vein (SIEV) are compared to systemic arterial and venous values. By doing so, the authors aim to demonstrate the direct impact of perforator selection on flap physiology. To our knowledge, no study to date has evaluated the in vivo blood gas variations for breast free flap reconstruction.

METHODS/MATERIALS: Ten consecutive patients undergoing deep inferior epigastric artery perforator (DIEP) free flap breast reconstruction were prospectively included. Demographic data were collected preoperatively. Intraoperatively, systemic arterial blood gas (ABG), venous blood gas (VBG), FiO2, pulse oximetry, and end-tidal CO2 were measured. Simultaneously, VBG from the SIEV and DIEV were noted. Flap characteristics and intra- and post-operative complications were recorded, with at least 30 days of follow-up.

RESULTS: Comparison of the venous blood gas samples demonstrated no statistical difference among the pH, PaCO2, and base excess of the DIEV, SIEV, and systemic blood samples. However, the PaO2 of the systemic blood samples was higher than its respective value in the DIEV and SIEV sample (p< 0.01). There were no cases of fat necrosis, partial flap loss, or total flap loss.

CONCLUSIONS: The blood gas values, in particular oxygenation, of the DIEV and SIEV in DIEP flaps do differ from systemic values.

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A Study of the Factors that Influence the Nipple Sparing Mastectomy Decision-Making Process

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INTRODUCTION: Nipple-Sparing Mastectomy (NSM) is oncologically safe1 and aesthetically superior2 in select patients. However, despite its inclusion in breast cancer management guidelines (i.e. NCCN, American Society of Breast Surgeons) the adoption of NSM has been slow.3-4 In this study, we explored factors that influence the decision-making process between NSM and Skin-Sparing Mastectomy (SSM) in women undergoing mastectomy and breast reconstruction.

MATERIALS AND METHODS: After IRB-approval, trios consisting of patients, surgical oncologists and plastic surgeons completed questionnaires and debriefing on NSM eligibility and decision-making. We used Chi-square and t-test to compare outcomes.

RESULTS: We enrolled 15 patients, 5 surgical oncologists and 3 plastic surgeons. Mean patient age was 48.6 years (range: 23–71). Ten patients consulted for therapeutic and 5 for prophylactic mastectomy. Six of the 15 trios had complete agreement on eligibility for NSM, while another 5 agreed on eligibility but not on specific reasons for it. Complete agreement on eligibility for NSM was higher among surgical oncologists and plastic surgeons (57% of cases) than between the physicians and patients (43%, p<0.001). Patients seen by both surgeons within one week (8/15; 53%) were more likely to have complete agreement than patients seen at longer intervals (p=0.005). Twelve surgical oncologist consultations (80%) included discussions of NSM, all of which were initiated by surgical oncologists. Fourteen plastic surgeon consultations (93%) discussed NSM, 11 of which (85%) were initiated by plastic surgeons. Of 9 patients eligible for NSM, 5 (56%) underwent NSM.

DISCUSSION: Our findings suggest that there is room for improvement in physician-patient and inter-physician communication on NSM eligibility, emphasizing the importance of timely and multidisciplinary coordination. Most conversations about NSM are not initiated by patients; moreover, patient-physician agreement is lower than inter-physician agreement, which highlights the need for enhanced patient education on surgical treatment options. These findings are especially relevant given the passing of the Breast Cancer Patient Education Act by Congress in December 2015,2 providing a potential route to enhance physician-patient communication and influence patients’ ability for fully-informed decision-making.

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RESEARCH & TECHNOLOGY SESSION 3
Cervical Neck Injury Among Plastic Surgeons
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INTRODUCTION: Physician health can impact both patient safety and physician quality of life. Many surgeons complain of neck pain and injury; however, there is little research formally addressing this topic.1 The purpose of this study is to estimate the prevalence of cervical neck injuries among plastic surgeons and to determine their functional impact.

MATERIALS AND METHODS: A 25-question self-assessment tool was administered to plastic surgeons at our institution via email in the pilot phase of the study. Questionnaires were developed using SurveyMonkey (survey-monkey.com). Data were analyzed to quantify injuries and identify associated factors.

RESULTS: Eleven of thirteen (85%) plastic surgeons responded to the survey. Nine (82%) respondents were male. 45% were between the ages of 35–44, 27% between 45–54, 18% between 55–64, and 9% between 65–74. Ten (91%) of eleven respondents reported significant neck pain or injury as a result of their occupation. Specific injuries included strain of neck musculature (n=7), cervical root or disc pain (n=3), disc herniation (n=2), radiculopathy (n=2), and neck spasm (n=1). Cervical neck injury was commonplace despite variation in workplace factors in the pilot phase of the study (e.g., years in practice, time spent in the operating room, time spent using surgical loupes, operating posture). A significant number of respondents reported that injuries had a moderate to severe impact on performance in the operating room (37.5%), overall job satisfaction (50%), and home life satisfaction (37.5%). Of note, greater than 60% of respondents reported at least daily pain related to their neck injury. The majority of injured surgeons (62.5%) were unaware of institutional resources to support their recovery.

CONCLUSION: This pilot survey clearly demonstrates a significant problem with occupational neck injuries among plastic surgeons and that these injuries significantly impact performance in the operating room as well as home and work life. The next phase of this study, currently in progress, is to survey members of the American Society of Plastic Surgeons to better understand the impact of neck injuries in our field and to identify prevention strategies. We believe that with a larger number of respondents, specific workplace factors (e.g., loupe usage, cervical neck exercise/stretching) will prove harmful or protective with respect to cervical neck injury within our specialty.

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Impact of Observer Cultural Background On the Visual Processing of Cleft Lip and Other Forms of Facial Difference Facial Deformities

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INTRODUCTION: Facial difference affects quality of life, and evidence suggests that social bias and stigmatization often persist even after the provision of appropriate facial reconstruction.1 In order to investigate the impact of observer cultural background on the visual processing of cleft lip and other facial deformities, we employed eye-tracking technology.2 3

PURPOSE: To measure the impact of culture on observer eye-tracking patterns of faces with cleft lip and other deformities. This information may better inform surgeons’ conversations with their patients by improving understanding of