for blue dye localization in SLNB of HN cutaneous malignancies. It showed easier SLN visualization and detection compared to blue dye injection and possibly a decreased complication profile. Longer-term studies are needed to accurately assess false-negative rates after undergoing SLNB via ICG lymphangiography.

Surgical Workforce, Socioeconomic Status, and the Global Burden of Orofacial Clefts

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PURPOSE: Orofacial clefts are one of the most common congenital anomalies, but this disease burden is unevenly distributed worldwide. Our hypothesis is that most of this burden falls on the countries with the smallest surgical workforce or lowest sociodemographic indices, rather than the countries with the highest prevalence of disease.

METHODS: The Global Burden of Disease methodology was used to estimate prevalence and morbidity of orofacial clefting in 195 countries from 1990 to 2017. Disability-adjusted life years (DALYs) and prevalence were compared over time, geographically, and against the sociodemographic index (SDI) and size of the national surgical workforce. Linear and logarithmic regressions were performed. Our international authorship hypothesizes on multiple factors contributing to this change based on their region’s perspective.

RESULTS: From 1990 to 2017, the number of clefts worldwide decreased by 4.9% to 10.8 million and the burden of this disease significantly decreased by 70.2% to 652,084 DALYs. In 2017, low- and middle-income countries experienced 83.5% of the DALY burden. The largest decreases in DALY were seen in East Asia and the Pacific (83.6% decrease) and Sub-Saharan Africa (73.1% decrease), whereas North America (14.2% decrease) and high-income countries (20.5% decrease) remained neutral. Prevalence was weakly positively associated with increasing SDI ($r = 0.43$; $r^2 = 0.18$), whereas DALYs were negatively associated with SDI ($r = -0.79$; $r^2 = 0.48$). There was a logarithmic association between the estimated surgical workforce and the disease burden, with significantly fewer DALYs in countries that had a surgical workforce of >6 providers per 100,000 population.

CONCLUSION: The burden of orofacial clefts has decreased significantly despite steady prevalence over the past 28 years. Most of the burden of orofacial clefting is carried by low- and middle-income countries, and the prevalence of orofacial clefting is not strongly correlated with the sociodemographic index. Strengthening the surgical workforce may aid in decreasing the life-long disease burden of orofacial clefting for any given country.

Skull Base Reconstruction Using Free Flaps Following Extended Tumor Ablation: A Retrospective Study of 45 Cases

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BACKGROUND: Oncologic resections at the skull base often result in extended defects and exposure of the brain, dura, and adjacent structures, and sometimes patients suffer from fatal postoperative complications like meningitis and cerebrospinal fluid leak. The primary goals of skull base reconstruction involve separation of central nervous system from external or mucosal contamination, obliteratoring dead space, and restoring acceptable appearance and function when possible. Although small defects can often be successfully closed using local flaps or distant pedicled flaps, surgical resection frequently results in the creation of complex, large, and 3-dimensional defects, which can be reconstructed only through the use of microvascular tissue transfer.

METHODS: A retrospective study was conducted of patients diagnosed with tumors infiltrating the skull base, who underwent extended tumor resection and primary microvascular free flap reconstruction between 2007 and 2017 at the University of Tokyo, Japan. The parameters investigated include demographics, tumor characteristics, preoperative therapies, reconstructive procedures, and above all, postoperative complications.

RESULTS: Forty-three patients underwent a total of 45 skull base free flap reconstruction during the study period. Twenty-eight males and 15 females were included in the study. Two patients developed a tumor recurrence and were treated with surgical skull base resection and a second microvascular reconstruction. The mean age was 55.8 years (range,
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Does the Bandeau Grow: Quantifying Postoperative Changes in the Bandeau Over Time After Fronto-orbital Advancement

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INTRODUCTION: Temporal hollowing is a known late sequela of fronto-orbital advancement (FOA) surgeries, and much work has highlighted the effect of soft tissue manipulation as a cause. However, bony manipulation including devascularization and undercorrection may also contribute to temporal hollowing. Currently no long-term quantitative assessments exist which evaluate the bony changes after FOA. We sought to objectively assess how such bony morphology changes over time.

METHODS: A multicenter, Institutional Review Board-approved retrospective study identified craniosynostosis patients treated with FOA between 2008 and 2018 at Children’s Hospital of Pittsburgh or Children’s Hospital of Philadelphia. Syndromic and nonsyndromic patients with both early postoperative and late follow-up (>12 months) head computerized tomography scans were included. Scans were reconstructed, oriented in a standardized fashion, and manually segmented into surgical fragments that delineated the osteotomies of interest for a given. Two craniofacial surgeons confirmed all segmentations and data points of interest. Thirty-two data points and 56 discreet metrics were collected from each patient and evaluated for changes over time.

RESULTS: Twenty patients matched inclusion criteria (12 female:8 male). Craniosynostosis subtypes included metopic (7), unilateral coronal (6 right, 3 left), multisutural (2), sagittal (1), and sagittal and metopic (1). Mean age at surgery and time to follow-up scan were 1.4 and 2.8 years, respectively. Average growth of the inter-eurion distance including devascularization and undercorrection may also contribute to temporal hollowing. Currently no long-term quantitative assessments exist which evaluate the bony changes after FOA. We sought to objectively assess how such bony morphology changes over time.

CONCLUSION: The long-term shape and position of the bandeau determine surgical success of FOA. We found that the skull continues to widen bitemporally after surgery; however, widening at the anterior temporal region is negligible. This is the first comparative demonstration of the bony contribution toward temporal hollowing in early and late postoperative patients.