BACKGROUND: Breast reconstruction is part of the complete care of the breast cancer patient, but insurance coverage remains a barrier to reconstruction, especially among those of lower socioeconomic status. Under the Affordable Care Act, states were given the option to expand Medicaid with federal assistance. As a result, 32 states (including DC) opted to expand Medicaid eligibility while 19 did not. Previous quasi-experimental studies took advantage of this unique state-specific policy implementation and found increased insurance coverage in expansion compared to nonexpansion states in the short-term. With longer-term data now available, we sought to study the effect of Medicaid expansion on changes in insurance coverage as well as specifically examine changes in breast reconstruction rates in expansion and nonexpansion states.

METHODS: Seven states which all expanded Medicaid eligibility in 2014 and six nonexpansion states were selected for comparative analysis. Based on public availability of data, the American Community Survey was queried for insurance coverage from 2011–2016, and the Health Care Utilization Project-State Inpatient Data for reconstruction rates from 2011–2014. Difference-in-difference linear mixed model compared insurance coverage between expansion and nonexpansion states before and after enactment. Breast reconstruction rates post-enactment were compared between expansion and nonexpansion states.

RESULTS: The increase in insurance rate in all persons covered by some type of health insurance from 2011–2016 was statistically greater in expansion than nonexpansion states (p<0.0014). The yearly median rate of implant-based reconstruction post-expansion in 2014 was 48.54% versus 42.00% in expansion and nonexpansion states, respectively.

CONCLUSION: Medicaid expansion states saw significantly greater improvement in total insurance and Medicaid coverage between 2011–2016 than nonexpansion states. Expansion states also saw higher rate of implant-based reconstructions post-enactment than nonexpansion states. While these findings are limited due to the few number of states, expansion of insurance eligibility for those of lower socioeconomic class may improve access to reconstructive care in the long-term. Our study may inform further policy on Medicaid expansion for breast cancer patients.

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Single Stage Direct-to-Implant Breast Reconstruction: A Comparison Between Sub-pectoral Versus Pre-pectoral Implant Placement

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PURPOSE: Single stage direct-to-implant (DTI) breast reconstruction can offer several potential benefits. Sub-pectoral DTI reconstruction can present with animation deformity and pectoralis muscle spasm. To potentially avoid these complications, surgeons have attempted pre-pectoral placement for DTI; however, the benefits of this approach are mostly unknown. We evaluated outcomes of DTI between prepectoral and subpectoral placement.

METHODS: Retrospective review of patients who underwent immediate DTI breast reconstruction (prepectoral vs subpectoral) between 2011 and 2018. Demographics, clinical characteristics, complications, and patient-reported outcomes (BREAST-Q) were compared.

RESULTS: Thirty-three patients (55-breasts) underwent prepectoral DTI and 42 patients (69-breasts) underwent subpectoral DTI. Demographics were similar among groups. Number of breasts with preoperative
ptosis lower than grade II were not significantly different between groups (29.1% vs 26.1%; p=0.699). Median follow-up was 20.3 and 21 months in the prepectoral and subpectoral group, respectively. Average mastectomy weight was 300g (185–425) and 355g (203–500). Average implant size was 410cc (330–465) and 425cc (315–534) in the prepectoral and subpectoral group, respectively. Alloderm was used in all reconstructions. Total number of complications was 4 (7.2%) and 8 (11.6%) in the prepectoral and subpectoral group, respectively (p=0.227). BREAST-Q demonstrated mean patient satisfaction was high and similar among groups (75 and 74, p=0.211).

CONCLUSION: Based on these results, we believe prepectoral DTI is safe, reliable and a promising reconstructive option for selected patients, with equivalent results to other reconstructive options. Our present treatment recommendations are for patients who wish to maintain the same breast size, and have minimal or no breast ptosis.

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Dental Agenesis and Maxillary Growth Restriction in Cleft Lip and Palate Patients

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PURPOSE: Maxillary retrusion is well known facet of the cleft palate pathology, however whether that underdevelopment is an intrinsic process or secondary to surgical scarring after palatoplasty remains the subject of controversy. The aim of this study is to evaluate the relationship between hypodontia and maxillary volume.

METHODS: After IRB approval, a retrospective review of patients age 6–9 with unilateral cleft palate at Lurie Children’s Hospital and Case Western University who underwent CBCTs in preparation for alveolar bone grafting between 2010–2016 was conducted. Serial Panorex scans were reviewed by two researchers to determine the number and location of congenitally absent teeth. Dolphin Imaging was used to measure SNA angle, ANB angle, and maxillary volume. Group 1 (poor growers) consisted of the bottom 50% of ANB angles and Group 2 (good growers) consisted of the top 50% of ANB angles.

RESULTS: 38 patients were identified that met inclusion criteria and had adequate imaging. The lateral incisor was the most commonly missing tooth (29%), first pre-molar on either side (18%). As seen in table 1, patients with higher ANB angles had fewer missing teeth and higher maxillary volume compared to patients with lower, Class III ANB angles.

CONCLUSIONS: Cleft patients with Class III occlusal relationships are more likely to have more congenitally missing teeth and decreased maxillary volume. The causative nature of this relationship requires further study.

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Identification of Novel Sub-Populations of Resident and Inflammatory Myeloid Cells and Osteogenic Progenitor Cells in Musculoskeletal Trauma

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PURPOSE: Despite the high frequency of musculoskeletal extremity trauma, little is known about the dynamics of the complex inflammatory response that can result in pathologic healing in the form of heterotopic ossification (HO). While posttraumatic inflammation is a critical element of normal wound healing, aberrant inflammatory processes in response to musculoskeletal trauma have been described to initiate ectopic bone formation through endochondral ossification. Therefore, accurate identification of cells present at the injury site is critical to understanding the pathophysiology and cellular interactions between inflammatory cells and resident mesenchymal progenitors (MSC). Here, we utilize single cell RNA sequencing to obtain an unbiased analysis of the cellular composition at the injury site and to identify dynamic changes in these cell subpopulations over time in a model of HO.