to ascertain aesthetic revision rates after FFABR, as well as patient-level and operative characteristics associated with revisions.

**Methods:** Patients who underwent FFABR between 2008-2017 were identified in a prospectively-maintained health system-wide registry. Patients with incomplete data were excluded. The primary outcome of breast aesthetic revision included scar revisions, fat grafting, liposuction, dog ear excision and implant-related revisions. Secondary outcomes included time to first revision, number of procedures per type of revision, and factors associated with increased aesthetic revisions. Revision rates and mean number of revisions were calculated. Chi-square tests and Cox regression controlling for potential confounders were used to determine the association of patient-level and operative factors associated with aesthetic revisions. The unit of analysis was at the flap-level.

**Results:** We identified 2,352 patients undergoing 3,780 flaps; 75.4% were bilateral. Characteristics that were more likely to be present in flaps that required aesthetic revisions included White race (79.5% vs. 73%, p<0.01), lower ASA (class I/II: 76.6 vs. 71.1%, p<0.01), diagnosis of cancer (90.7% vs. 88.4%, p=0.03), and lymphedema (11.3% vs. 9%, p=0.02). Type of flap, chemotherapy and radiation therapy also differed between cohorts (p<0.05). There were no differences in age, obesity (BMI>30), comorbidities, reconstruction timing, or prior BCT (p>0.05). The rate of aesthetic revisions was 36%. The median time to first revision was 218 days after discharge (IQR 148-341), and 80.5% occurred within two years. While the majority of flaps that underwent revision required only one revision (66.2%), 12.6% underwent three or more revisions. Liposuction was the most common aesthetic revision with a rate of 17.4%. Risk-adjusted analysis showed that White race relative to Black (Hazard Ratio [HR] 1.42 [95% confidence interval [95% CI]: 1.13-1.78], p<0.01); delayed reconstruction relative to immediate (HR 1.16 [95%CI: 1.02-1.32], p<0.01); DIEP (HR 1.11 [95% CI: 1.05-1.18], p<0.01), SIEA (HR 1.5 [95% CI: 1.13-2], p<0.01), and other flap (GAP, TUG, PAP; HR 3.1 [95% CI: 2.34-4.11], p<0.01) relative to muscle-sparing free TRAM flap; surgical site occurrences (HR 1.31 [95% CI: 1.16-1.48], p<0.01); and any surgical/ non-surgical complication composite (HR 1.49 [95% CI: 1.32-1.68], p<0.01) were independently associated with increased aesthetic revisions.

**Conclusions:** A fourth of flaps require at least one revision after FFABR and most occur within two years. White race, type of flap, delayed reconstruction and complications are factors associated with increased aesthetic revisions. These data should be used to set appropriate expectations preoperatively and to illustrate the timeline of reconstruction in patients seeking FFABR.

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**Affordable Care Act State-specific Medicaid Expansion Is Correlated With Increased Rates Of Implant-based Breast Reconstruction Compared To Autologous Reconstruction**

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**Purpose:** Breast reconstruction for the breast cancer patient has been shown to provide substantial benefits. However, disparities in access to breast reconstruction remain due to socioeconomic factors and access to health insurance. Under the Affordable Care Act, states were given the option to expand Medicaid. Thirty-two states (including DC) opted to expand Medicaid eligibility in 2014 while 19 did not. The unique, state-specific outcome of the Supreme Court ruling on Medicaid expansion provides an opportunity to study its effects by juxtaposing expansion states with non-expansion states. Our group’s prior studies have quantified the effect of Medicaid expansion on changes in insurance coverage and breast reconstruction rates in expansion and non-expansion states from 2011-2016. Given the existing health disparities especially among breast cancer patients, and the significant benefits of breast reconstruction, we now aim to study rates of autologous vs. implant-based reconstruction in Medicaid expansion states compared to non-expansion states using available data from 2010 to 2014.

**Methods:** Seven states which all expanded Medicaid eligibility in 2014 and five non-expansion states were selected for comparative analysis. Health Care Utilization Project-State Inpatient Data was queried for reconstruction rates from 2010-2014. In order to study trends in reconstruction rates over time, subgroup analysis was conducted to assess rates of implant vs. autologous reconstructions.
**Results:** Overall, the rate of implant-based reconstruction was higher in expansion states vs. non-expansion states for every year studied. The increase in implant-based reconstructions from 2010-2014 was also greater in expansion (11.86% increase) vs. non-expansion states (1.96% increase, p < 0.05). The yearly median rate of implant-based reconstruction post-expansion in 2014 was 48.54% versus 42.00% in expansion and non-expansion states, respectively. In comparison, the overall rate of autologous reconstruction was higher in non-expansion states for every year studied, though the percent of autologous reconstructions increased in both expansion states (13.52% increase) and non-expansion states (10.75% increase) from 2010 to 2014.

**Conclusions:** Medicaid expansion states saw a significant increase in implant-based reconstruction compared to non-expansion states from 2010 to 2014. These data add to our group’s prior findings that increased access to health insurance also led to an increase in mastectomy rate without a significant increase in number of available reconstructive surgeons or operating room time. This illuminates the downstream effects of this sweeping national health care policy, which improved access to reconstructive care, but has also led to a disproportionate increase in implant-based reconstructions which take much less time than autologous breast reconstructions. This study suggests that increased access to and thus demand for health care services, while supply of providers remains the same, may in fact lead to an unexpected preference for certain reconstructive options over others. As evidenced by these findings, national health care policy may have unforeseen effects on the reconstructive options offered to and ultimately chosen by patients.

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Striae Distensae Are Rich In Mechanoresponsive And Cd26-positive Human Dermal Fibroblasts And Exhibit Increased Profibrotic Signaling

**Purpose:** Striae distensae (‘stretch marks’) are common disfiguring cutaneous lesions found in a variety of clinical situations. Despite their prevalence, the etiology of striae distensae remains elusive, and this has significantly hindered development of effective treatment strategies. Human dermal fibroblasts (HDF) are the principal cell of the dermis and likely play an important role. We sought to elucidate the key cellular and molecular pathways distinguishing HDF in striae distensae and normal skin.

**Methods:** Striae distensae and normal skin samples were isolated from abdominoplasty specimens removed in surgical procedures (n=15 Skin tensile strength was assessed, and histological structure was compared using Hematoxylin and Eosin, Trichrome, and Picrosirius Red staining together with a novel computational assessment of collagen fiber networks. HDF were also isolated by flow cytometry using a negative and positive gating strategy (CD45-CD235a-CD31-CD90+LIVE single dermal cells) for analysis of gene expression using mRNA microarrays. Immunofluorescence staining and flow cytometry were used for confirmation of gene expression data at the protein level.

**Results:** The skin of striae distensae had absent rete ridges, epidermal atrophy, and a more disorganized pattern of collagen fiber bundles upon histological analysis. There was clear delineation in collagen fibers from striae distensae and normal skin with the most divergence in the collagen fibers of the reticular dermis between skin types. The striae distensae also exhibited reduced tensile strength compared to normal skin samples. Microarray analysis revealed 296 up-regulated and 174 down-regulated genes in HDF isolated from striae distensae compared to normal skin. Of the differentially expressed surface markers, CD26 was significantly upregulated in HDF from striae distensae compared to normal skin. Gene ontology analysis confirmed that key profibrotic signaling pathways were significantly up-regulated in striae distensae including focal adhesion, TGFβ, and FAK-PI3-AKT pathways. In contrast, the anti-fibrotic macrophage migration inhibitory factor receptor, CD74, and the AMPK pathway were significantly down-regulated in striae distensae. Increased expression of CD26 and decreased expression of CD74 in striae distensae compared to normal skin was confirmed by flow cytometry and immunofluorescence staining of fresh abdominoplasty skin samples.

**Conclusion:** Our data start to elucidate the mechanisms mediating the formation of striae distensae and indicate that fibroblasts from striae exhibit increased pro-fibrotic and decreased anti-fibrotic signaling pathways. CD26 is a