CONCLUSION: Patients who receive a highly cohesive, high profile, larger implant appear to be at higher risk for implant flipping. These device characteristics are an important consideration in device selection to minimize discomfort, aesthetic deformity, and the need for reoperation.

P57. TOTAL BREAST RECONSTRUCTION WITH REVERSE EXPANSION (RE) AND AUTOLOGOUS FAT TRANSFER (AFT): SINGLE CENTER EXPERIENCE WITH 2000 BREASTS

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PURPOSE: Autologous breast reconstructions provide long-term patient satisfaction but flaps are in-patient invasive procedures with morbidities and potential complications. Less invasive AFT reconstructions stall because fat is not an expander. This may be solved by pre-expansion of the mastectomy followed by AFT to the de-expanded recipient laxity.

METHODS: For the immediate reconstructions, we insert subpectoral expanders and graft 150-200ml as individual fat ribbons teased in-between the exposed muscle fibers. After adequate post-operative expansion, we remove the expander and graft the expanded tissues with 200-400ml of fat and restore the breast mound by inserting an implant half the expander volume. To convert the already-expanded implant reconstructed breasts to autologous fat, we remove the implant, replace it with a 50% smaller one and graft the loosened tissues. In both situations we repeat the procedure every three months till the patient is implant free.

RESULTS: We reviewed 2000 consecutive breasts reconstructions with RE and AFT performed in our ASC. Non-radiated mastectomies required 3.2 sessions. At each session, the expanded breast volume remained constant as the intervening mastectomy tissue volume doubled while the implant volume halved. Radiated breasts took 5.8 sessions, with less grafting and less than halving implant size per session. Patient satisfaction was very high, especially in implant to fat converted patients. Complications were minimal, more frequent in the radiated breasts and mostly due to overgrafting or excessive scar release in previously complicated reconstructions.

CONCLUSION: Despite our extensive experience with flaps, RE and AFT is now our favorite breast reconstruction method. Patients like it best.

P58. RISK OF POST MASTECTOMY LYMPHEDEMA IN AUTOLOGOUS BREAST RECONSTRUCTION: A MULTI-CENTER 10-YEAR ANALYSIS OF 9,660 PATIENTS STRATIFIED BY FLAP-TYPE AND TIMING OF RECONSTRUCTION

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PURPOSE: Following mastectomy, over 20% of women experience lymphedema. Previous studies suggest a possible protective effect of breast reconstruction against lymphedema development. This study analyzes risk of developing post-mastectomy lymphedema following autologous reconstruction by flap-type and temporality using a real-time, federated electronic medical record network (TriNetX Inc, Cambridge, MA).

METHODS: 85,776,922 de-identified patient records were retrospectively screened from 2006-2021. 60,157 post-mastectomy patients aged 18-99 met criteria and were allocated into paired cohorts using common procedural terminology codes. Cohorts were then compared to assess lymphedema outcomes relative to timing (immediate vs. delayed) and flap-type (DIEP/TRAM/latissimus). Paired cohorts were compared and stratified by timing of reconstruction. Outcomes were assessed following stringent balancing for age, race, radiation, chemotherapy, hormone therapy, smoking, diabetes, obesity, and axillary lymph node dissection. Post-operative lymphedema rates within 2, 5, and 10-years of mastectomy were analyzed.
RESULTS: DIEP and latissimus patients demonstrated significantly decreased risk of lymphedema compared to mastectomy without reconstruction across all time points; DIEP (Risk Ratio (RR): 0.487-0.546, 95% Confidence Interval (95%CI): 0.411-0.651, p<0.001), latissimus (RR:0.567-0.638, 95%CI:0.423-0.828], p<0.001). Delayed DIEP was associated with significantly reduced post-mastectomy lymphedema risk versus immediate DIEP reconstruction within 10 years (0.639-0.652[0.459-0.889], p<0.01).

CONCLUSION: Our analysis examines the potential protective effect against lymphedema of various approaches to autologous breast reconstruction. Limitations include this study's retrospective nature and reliance on medical coding. Future prospective studies are warranted to confirm whether autologous breast reconstruction, and specifically delayed DIEPs, may be protective against post-mastectomy lymphedema.

P59. OUTCOMES OF PARTIAL ACELLULAR DERMAL MATRIX USE IN PREPECTORAL NIPPLE-SPARING MASTECTOMIES

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PURPOSE: The nipple-sparing mastectomy (NSM) offers a reconstruction option to patients who wish for a more subtle scar pattern and to retain their native nipple-areolar complex. Traditionally used acellular dermal matrix (ADM) has been linked to potential complications including seroma, hematoma, and infection, as well as increased operative costs. Our study examines whether using partial ADM to cover the lower pole of the breast implant during NSM prepectoral reconstruction offers comparable, or even better, rates of postoperative complications while minimizing operative costs.

METHODS: A retrospective chart review of patients who underwent prepectoral nipple-sparing implant-based reconstruction (IBR) using partial ADM (June 2019 - October 2020) was performed. Demographic, perioperative, and post-operative complication information was collected and described using means, standard deviations, and frequencies.

RESULTS: Ninety-eight patients (183 breasts) met inclusion criteria, with smoking history (36.73%), prior breast surgery (18.58%), and obesity (18.58%) cited as the most common comorbidities. 12.60% of patients experienced a complication following stage one of reconstruction, with infection as the most common complication (5.46%). Complication rates following stage two were 7.10%, with dehiscence cited as the most common complication (4.92%).

CONCLUSION: The average cost of ADM for breast reconstruction is upwards of $5,000. While our institution does not utilize full ADM coverage in NSMs, historical trends in the literature demonstrate overall complication rates of 22.9% to as high as 30%. Our study demonstrates that utilizing partial ADM coverage in the setting of NSM offers comparable, if not lower, complication rates at a fraction of the cost.

P60. PATIENT FACTORS THAT AFFECT PRE-OPERATIVE PATIENT REPORTED OUTCOMES IN WOMEN UNDERGOING BREAST CANCER SURGERY

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PURPOSE: Understanding the impact of patient, disease, and treatment factors on pre-operative patient reported outcomes (PROs) is important to guide surgical decision-making with breast cancer.

METHODS: This prospective cohort study evaluates PROs in women undergoing breast cancer treatment at a metropolitan health care system. New cases undergo tumor board discussion and same-day consultations with various specialties. Women choose to complete pre- and post-operative Breast-Q© Breast Conserving Surgery (BCS), Mastectomy (M), or Reconstruction (R) modules and demographic surveys. Individual associations to pre-operative Breast-Q survey scores were assessed using linear regression models (one for each Breast-Q survey type). Variables significant for at least one survey were included in multiple linear regression models.