

To Stack or Not to Stack: An Institutional Experience with Autologous Stacked-flaps for Breast Reconstruction.



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Introduction

Patients undergoing autologous breast reconstruction may require stacked flaps to achieve volume goals. We reviewed our institutional experience with stacked flaps to identify trends in patient characteristics and analyze outcomes.

Methodology

A retrospective review of patients who underwent autologous reconstruction at an academic tertiary care center from August 2018 to December 2023 was conducted after IRB approval. Data pertaining to demographics, comorbidities, and reconstruction were collected. Primary outcomes were acute 30-day complications and secondary outcomes were chronic complications and revision procedures.



50-year-old female with reconstruction history of with a tissue expander with exchange for implant, followed by latissimus dorsi flap at an outside institution. Due to radiation induced skin changes, atrophic flap, pain, and overall poor aesthetic outcome, salvage was performed with a right stacked DIEP flap and contralateral implant for symmetry.



46-year-old female with left breast cancer reconstruction with immediate left tissue expander placement, followed by left stacked DIEP flaps, followed by prophylactic procedure on the right with immediate stacked VUG flaps.

Results

A 367 flaps in 274 patients were identified, with 19 in the stacked group in 18 patients. Average BMI was 29 kg/m² (range kg/m²) and age 48 years (range 31-67). 11 had a history of radiation. 1 was performed immediately and 18 in the delayed fashion. 18 were anastomosed to anterograde/retrograde internal mammary vessels and 1 was an intraflap anastomosis. 12 were for salvage of prior reconstruction. Reasons for salvage were severe capsular contracture or recurrent infection. The remaining 7 flaps were performed due history of radiation or personal preference for autologous reconstruction. For those with prior alloplastic reconstruction, average expander or implant volume was 537.5cc. Overall acute 30-day complication rates was 0%. None of the flaps required acute takeback to the OR, suffered flap loss or had donor site complications. The only chronic complication was partial mastectomy flap necrosis in 2 patients (10.5%) requiring operative revision of wounds 47% underwent subsequent revision surgery, primarily fat grafting for volume augmentation (avg cc of fat per procedure-125.7cc in stacked flap, 107cc in contralateral non-flap breast), or symmetrizing contralateral procedures, mainly implant replacement (15.8%). No fat necrosis was reported. Average follow up was 367 days.

Conclusion

Stacked breast flaps can achieve favorable aesthetic outcomes with a low risk for complications. Future studies may further elucidate the ideal characteristics for patients who would benefit from stacked reconstruction.

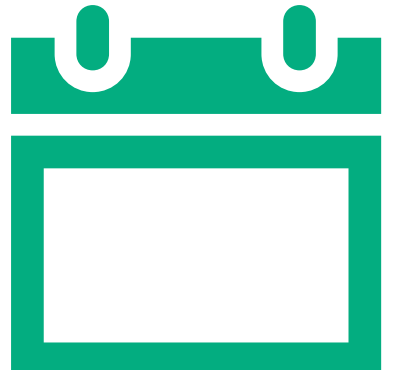
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Observed Trends



Average BMI
29 kg/m²



95% in the
delayed fashion



63% for salvage