

Aesthetic Outcomes of Unilateral Breast Reconstruction and Symmetrizing Procedures Compared with Bilateral Reconstruction with Free Tissue Transfers

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Background: As the number of women seeking contralateral prophylactic mastectomy (CPM) in the setting of unilateral disease increases, further scrutiny of the aesthetic outcomes is essential. As of yet, no study has effectively compared the outcomes of those patients who have undergone autologous tissue reconstruction for bilateral mastectomies and those who have undergone unilateral breast reconstruction with symmetrizing procedures. The authors aimed to identify whether unilateral breast reconstruction with a symmetrizing procedure has superior aesthetic outcomes compared with bilateral breast reconstruction using autologous tissue transfers.

Methods: An IRB-approved retrospective study was performed on 18 patients from a single surgeon (OL) who underwent immediate breast reconstruction. Nine patients underwent unilateral breast reconstruction with an autologous tissue transfer and a symmetrizing procedure (breast augmentation, reduction, or mastopexy), and nine patients underwent bilateral breast reconstruction with bilateral autologous tissue transfers. Breast aesthetic appearance was evaluated for each patient's pre- and one-year post-operative photos using a 1-4 scale (1 being "Excellent" appearance), by a group of 100 laypersons using crowd sourcing software (Amazon-Mechanical Turk), 15 board certified plastic surgeons and a validated breast symmetry analyzing software (BCCT.core).¹

Results: No significant difference was found between unilateral and bilateral breast reconstruction patient groups in pre-operative appearance scores given by BCCT, lay-person, plastic surgeons. Patients who underwent unilateral breast reconstruction with a symmetrizing procedure had poor (higher) post-operative appearance scores compared with pre-op in BCCT (2.11 ± 0.33 vs. 1.67 ± 0.5 , $p=0.01$), lay-person (2.07 ± 0.27 vs. 1.56 ± 0.35 , $p<0.001$), and plastic surgeons (2.42 ± 0.24 vs. 1.74 ± 0.32 , $p<0.001$). Patients who underwent bilateral reconstruction had better aesthetic appearance scores compared with pre-op in BCCT (1.44 ± 0.53 vs. 2.22 ± 0.44 , $p=0.01$), lay-person (1.43 ± 0.27 vs. 1.95 ± 0.56 , $p=0.02$), and plastic surgeons (1.62 ± 0.19 vs. 2.29 ± 0.58 , $p=0.004$).

Conclusion: This is the first study to demonstrate the aesthetic superiority of bilateral immediate reconstruction with autologous tissue in comparison with either unilateral reconstruction and symmetrizing procedures.

References:

1. Kudora F, et al. Evaluation of Aesthetic and Quality-of-Life Results after Immediate Breast Reconstruction with Definitive Form-Stable Anatomical Implants. *Reconstr. Surg.* 137: 278e, 2016.