



Unilateral Vs. Bilateral Tissue Expander-Based Breast Reconstructions: Trends And Complication Rates

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Background:

Reconstruction patients with unilateral breast cancer may undergo bilateral prophylactic mastectomies. Studies comparing outcomes between bilateral and unilateral reconstruction patients are lacking.

Methods:

From January 2012 to December 2016 two surgeons at one hospital performed 445 breast reconstructions with tissue-expanders(TE). The patients were split into bilateral(n=368) and unilateral(n=77) groups. T-tests were performed to compare percentage of patients who lost reconstruction after tissue expander explant and percentage of patients opting for flap without implant placement. Amongst patients who received implant, percentage of patients of various complications and mean numbers of surgeries per patient were counted. T-tests were run.

Results:

Among all patients(n=445), comorbidities were equivalent. Unilateral patients(51.1yr) were older than bilateral patients(48.2yr), $p=.03$. There were no significant differences in percentage of patients losing reconstruction after TE(bilateral 1%; unilateral 4%, $p=.06$) or patients opting for flap without implant($p=.14$). Amongst patients receiving implants, there were no significant differences in complication rates. There were also no significant differences in the mean numbers of different surgeries per patient. Of the unilateral patients receiving implants, 24% underwent latissimus flap surgery and 74% had surgery on the contralateral breast.

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Table 1. Age, BMI, comorbidities, percentage of lost reconstructions, and percentage of patients choosing flaps amongst all TE patients.

	Age (yrs)	BMI (kg/m ²)	Percentage with History of Smoking	Percentage of Patients with Hypertension	Percentage of Patients with Diabetes	Percentage of Patients Losing Reconstruction after TE Explant	Percentage of patients choosing flap reconstruction without implant
Bilateral (n=368)	48.2*	26.5	25	23	6	1	36
Unilateral (n=77)	51.1*	26.4	20	23	3	4	45
p value	*.03	.9	.35	1	.3	.06	.14

Table 2. Percentages of patients with specific complications amongst patients receiving implants.

	Infection requiring IV antibiotics	Necrosis requiring operation	TE Exchange for new TE	Implant Rupture	Seroma	Hematoma	Anatomical Implant Rotation	DVT	PE	Others
Bilateral (n=232)	6.0	4.7	2.2	1.3	9.9	4.7	5.6	0	0	8.2
Unilateral (n=39)	10.3	5.1	2.6	0	7.7	5.1	2.6	0	0	7.9
p value	.32	.81	.86	.48	.66	.92	.43	1	1	.97

Table 3. Age, BMI, and percentages of patients with comorbidities amongst patients receiving implants.

	Age (yrs)	BMI (kg/m ²)	Percentage with History of Smoking	Percentage of Patients with Hypertension	Percentage of Patients with Diabetes
Bilateral (n=232)	47.2	24.2	23	20	2.6
Unilateral (n=39)	50.4	24.7	21	23	2.6
p value	.09	.52	.71	.57	.99

Table 4. Mean numbers of surgeries per patient and percentages of patients undergoing different surgeries amongst patients receiving implants.

	Number of Complication-related surgeries before implant	Number of Complication-related surgeries after implant	Number of Revision surgeries	Total Number of surgeries	Percentage of patients with at least one revision surgery	Percentage of patients with at least one complication-related surgery before implant placement	Percentage of patients with at least one complication-related surgery after implant placement
Bilateral (n=232)	.2	0.04	.5	2.9	38	19	3.5
Unilateral (n=39)	.3	.13	.69	3.1	41	18	5.0
p value	.65	.12	.30	.27	.70	.86	.61

Conclusions:

Unilateral and bilateral groups showed equivalent rates in the loss of reconstruction and the choice of flap reconstruction without implants. Amongst patients receiving implants, no significant differences were present when comparing complication rates and mean numbers of surgeries throughout the reconstruction process. Because unilateral patients can expect to face similar complication rates and surgeries compared to bilateral patients, a bilateral prophylactic mastectomy can be considered when desired by patients.