



The Impact of Immediate Deep Inferior Epigastric Perforator Flap And Simultaneous Contralateral Symmetrization On Rates Of Complication And Length Of Reconstruction

Mount
Sinai

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1. BACKGROUND

- Simultaneous contralateral symmetrization, including breast augmentation, reduction, or mastopexy, are often performed alongside unilateral deep inferior epigastric perforator (DIEP) flap breast reconstruction. However, the timing of this procedure remains debated.
- While simultaneous symmetrization reduces overall number of procedures and length of hospital stays, risk of increasing revisions and complications compared to delayed symmetrization is debated
- Additionally, total length of reconstructive sequence and revision, related to the necessity and timing of revision surgeries, remains understudied

2. OBJECTIVE

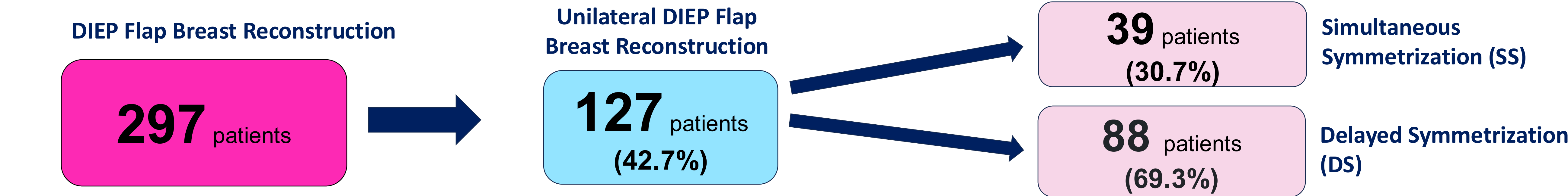
The present study aims to analyze and compare surgical and clinical outcomes between immediate and delayed symmetrization in unilateral DIEP flap breast reconstruction

3. METHODS

Retrospective chart review was conducted of patients who underwent DIEP flap breast reconstruction at single institution between 2019-2023

- Data collection:** Patient demographics, comorbidities, length of operation, length of inpatient stay (LOS), details of revision surgeries, and the total length of the reconstructive sequence were collected
- Outcomes of interest:** index procedure operative time, hospital length of stay, complications (infection, wound dehiscence, seroma, hematoma, flap loss, necrosis, unexpected reoperations, DIEP flap failure, and 90-day post-operation readmissions), total reconstructive sequence length, and revision trends (anesthetic, laterality, categorical)
- Statistical analysis:** Descriptive statistics, chi-square test, and regression analyses were performed to assess the rates and associations of relevant variables, and the p-value was set at <0.05

4. RESULTS



- Reconstructive Timeline (*Figure 1*): **Duration significantly shorter for SS** (152 vs. 447 days, $p<0.001$)
- Complications (*Figure 5*) and LOS (*Figure 3*): **No significant difference in total complications** (38% SS vs. 32% DS, $p=0.466$) or **LOS** (3.3 vs. 3.4 days, $p=0.821$)
- Operative Time: **SS required longer index procedures** (422 vs. 366 mins, $p=0.008$), reflecting increased intraoperative complexity
- Revision Burden (*Figure 2*):
 - DS patients had 35-fold higher odds of undergoing revision surgery** ($p<0.001$)
- Revisional Trends (Among Patients Undergoing a Revision):
 - No difference among revision events** (anesthetic sessions)
 - DS had more categorized contralateral procedures** (categorized; technique-driven) (*Figure 4*)

Complication – number (%)	SS group (n=39)	DS group (n=88)	P value
Any complication	15 (38.4%)	28 (31.8%)	.466
90-day SSI	1 (2.5%)	5 (5.7%)	.666
Dehiscence	3 (7.7%)	7 (8.0%)	1.00
Hematoma	3 (7.7%)	4 (4.5%)	.675
Seroma	2 (5.1%)	2 (2.3%)	.586
Necrosis	3 (7.7%)	17 (19.3%)	.097
90-day unexpected reoperation	4 (10.3%)	13 (14.8%)	.582
90-day readmissions	1 (2.5%)	3 (0.3%)	1.00
Partial flap loss	1 (2.5%)	0 (0%)	1.00
Total Flap loss	1 (2.5%)	0 (0%)	.310

Figure 5: Complication Rates

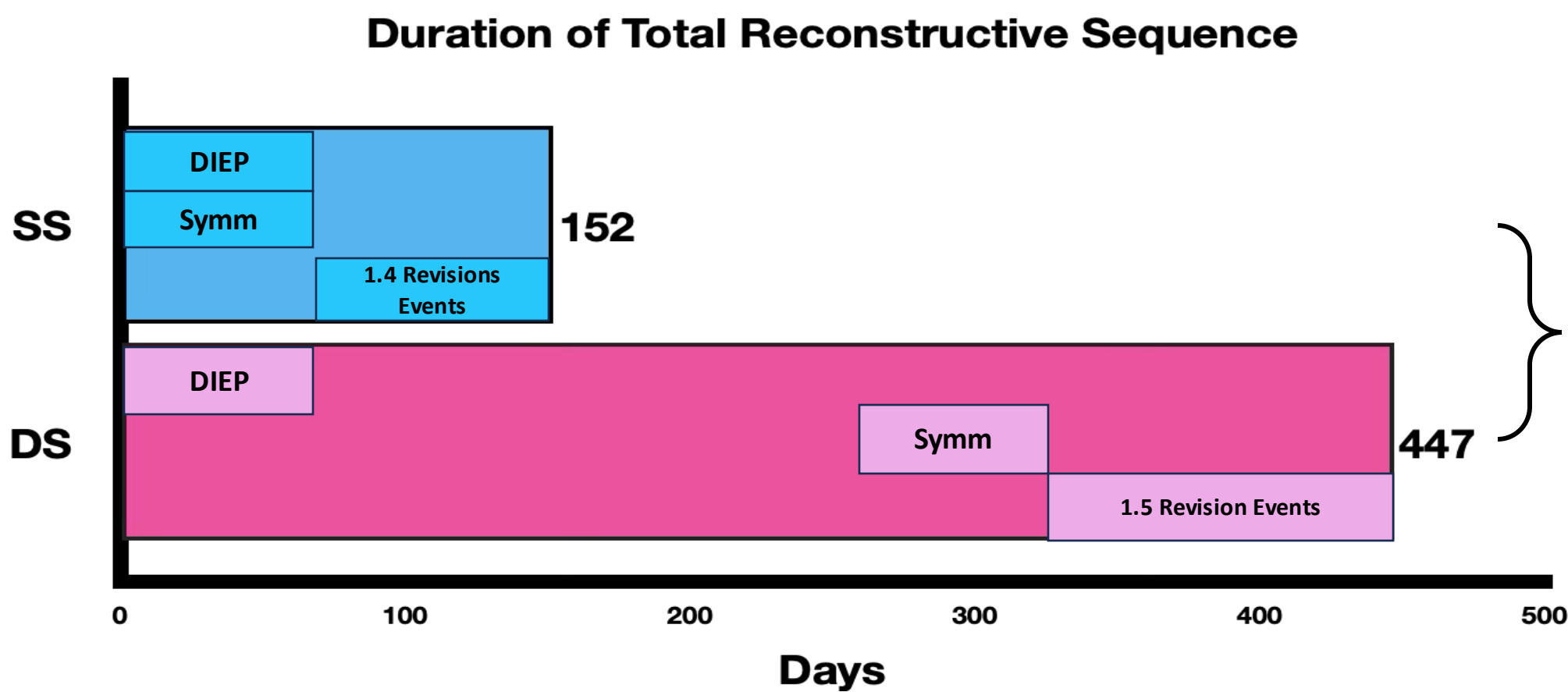
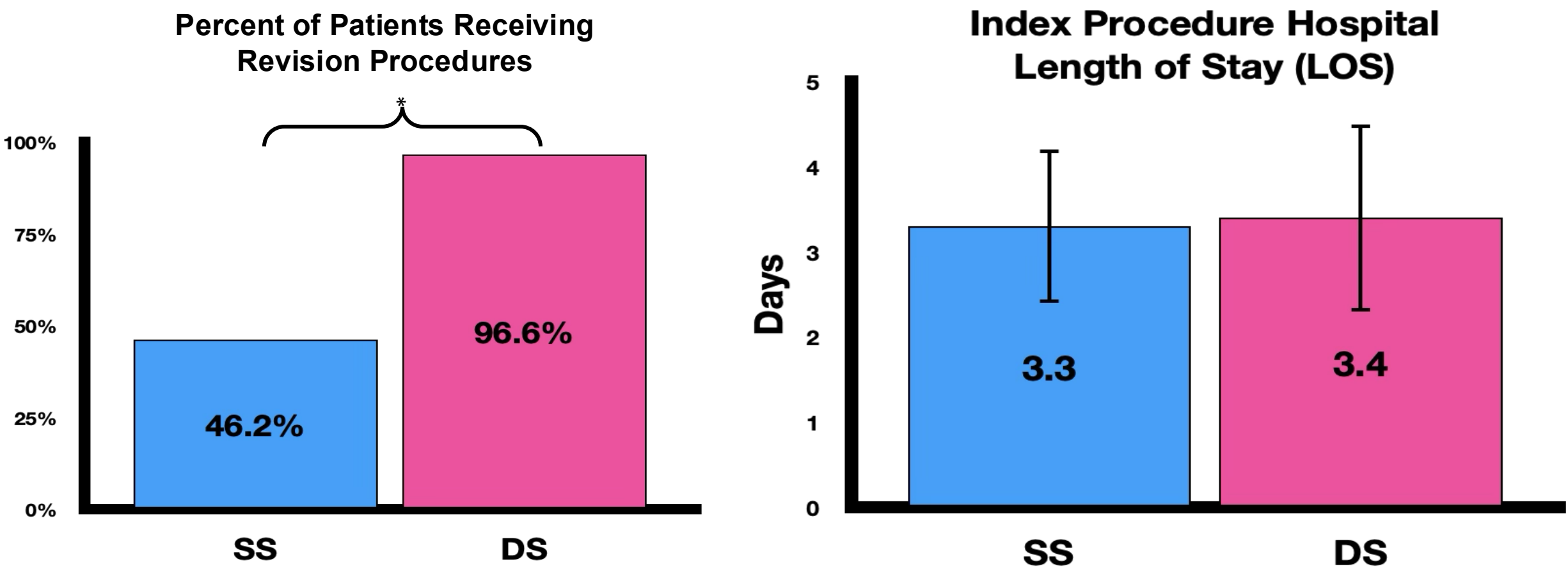


Figure 1: Duration of Total Reconstructive Sequence



Figures 2&3: Patients Receiving Revision Procedures (2) and Index Procedure LOS (3)

Revision type, mean (SD)	SS group	DS group	P value
Fat grafting (n=114)	1.2 (0.56)	1.41 (0.74)	0.224
Excision of fat necrosis (n=14)	1.25 (0.5)	1.13 (0.35)	0.675
Scar revision (n=10)	1 (0)	1.14 (0.38)	0.356
Revision contralateral breast (n=33)	1 (0)	1.3 (0.59)	0.029
Revision DIEP flap (n=85)	1.11 (0.33)	1.32 (0.63)	0.158
Revision abdominal surgery (n=67)	1.17 (0.39)	1.15 (0.36)	0.904
Nipple graft/revision (n=86)	1.08 (0.36)	1.11 (0.36)	0.771
DIEP revision (n=35)	1 (0)	1.07 (0.35)	0.863

Figure 4: Categorization of Revisional Procedures (n=444)

5. CONCLUSION

Simultaneous contralateral symmetrization procedures had a shorter reconstructive sequence compared to the delayed group, less revisional procedures, and no difference in the rate of postoperative complications or length of hospitalization

6. CLINICAL RELEVANCE

These findings suggest simultaneous symmetrization procedures may offer a viable option for patients seeking breast reconstruction with fewer surgical interventions