

Background

- Nipple-sparing mastectomy (NSM) offers aesthetically pleasing and favorable quality-of-life outcomes
- Multiple studies have demonstrated the oncologic safety of NSM relative to skin-sparing mastectomy (SSM)
- Concerns remain about the feasibility of NSM with immediate reconstruction in patients with large-volume breasts (≥ 600g)

Purpose

The purpose of this study is to compare complication rates between patients undergoing NSM vs. SSM with resection weights of ≥ 600g per breast.

Methods

- Inclusion Criteria:
- Women undergoing prophylactic or therapeutic SSM or NSM with immediate reconstruction between 2020-2022
 - Breast resection weight ≥ 600g

- Outcomes:
- Minor complications: seroma, hematoma, skin flap necrosis, nipple necrosis, wound dehiscence, infection
 - Major complications: minor complications requiring return to OR

Results

Table 1. Demographic and reconstructive characteristics

	≥ 600g SSM	≥ 600g NSM	P-value
Total number	100	43	
Mean age	51.8	47.7	0.03*
Mean BMI	32.8	32.0	0.46
Diabetes	8 (8%)	3 (7%)	1
Reconstruction Type			
Tissue expander	24 (24%)	12 (28%)	0.60
Direct implant	64 (63%)	23 (54%)	
DIEP flap	12 (12%)	8 (19%)	
Latissimus flap	1 (1%)	0 (0%)	
Chemotherapy	44 (44%)	18 (42%)	0.81
Radiation			
None	73 (73%)	35 (81%)	0.31
Before mastectomy	22 (22%)	5 (12%)	
After mastectomy	5 (5%)	3 (7%)	

Table 2. Operative details

	≥ 600g SSM	≥ 600g NSM	P-value
Mean breast weight (grams)	1015.6	879.2	0.005*
Mean implant size (cc)	544.8	608.9	0.004*

Results cont.

Table 3. Surgical outcomes

	≥ 600g SSM	≥ 600g NSM	P-value
Complications			
Minor	32 (32%)	6 (14%)	0.03
Major	23 (23%)	12 (27.9%)	0.53
Complication Type			
Seroma	17 (17%)	7 (16.3%)	0.92
Hematoma	8 (8%)	3 (7.0%)	0.83
Skin flap necrosis	15 (15%)	3 (7.0%)	0.18
Nipple necrosis	n/a	2 (4.7%)	
Wound dehiscence	6 (6%)	2 (4.7%)	0.75
Wound infection	11 (11%)	2 (4.7%)	0.23

Conclusion

- In large-breasted patients, there is a >20% chance of developing a complication requiring additional surgery regardless of the approach to the nipple-areolar complex.
- NSM patients in our series exhibited a lower incidence of minor complications than their SSM counterparts.
- NSM in breasts ≥ 600g presents an acceptably low rate of nipple necrosis, similar to that of smaller-breasted patients.
- Women with breast volumes larger than 600g can be safely offered NSM.**