

Outcomes in Post Bariatric Body Contouring Procedures with Respect to Surgical Specialties: An Analysis of the American College of Surgeons National Surgical Quality Improvement Program Databases

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Background: Correlated with the increasing utilization of bariatric surgery is an increasing demand for body contouring surgery¹. More than 330,000 body contouring procedures were performed in 2012. The purpose of this study is to evaluate the outcomes of body contouring procedures as they relate to provider specialty training (general surgeon versus plastic surgeon) as an independent predictor.

Methods: The American College of Surgeons National Surgical Quality Improvement Program database was reviewed from 2005 to 2010 for all identifiable body contouring cases. Appropriate Current Procedural Terminology codes were used to identify body contouring procedures of the abdomen and breast, including suction assisted lipectomy. Pre-operative risk factors were identified and a multivariate analysis was used to investigate risk-adjusted outcomes, specialty comparisons, and predictors of morbidity.

Results: A total of 2,632 patients were included. Most were women (n=2,317). The mean age was 47.4 years. Sixty eight point five (68.5) percent of the patients were white, 7.4 percent were African American and 8.78 percent were Hispanic. The abdominal contouring procedures were the most common making up 71.7 percent. One thousand eight hundred nine (68.5 percent) cases were done by plastic surgeons and 823 (31.2 percent) cases were done by general surgeons (table 1).

Table 1. Surgical Specialty Breakdown

Specialty	#	%
Gen Surgery	823	31.17
Gynecology	3	0.11
Orthopedics	1	0.04
Plastics	1,809	68.52
Urology	2	0.08
Vascular	2	0.08
Total	2,640	100

Overall complications were reported in 236 (9.0 percent) patients, multivariate logistic regression revealed differing outcomes based on surgical specialty. Cases performed by general surgeons were associated with increased overall complication rates (OR 1.9, p=0.00), wound infections (OR 1.9, p=0.00), and returns to the operating room (OR 2.3, p=0.00) when compared with the outcomes of plastic surgeons. Post-operative mean length of stay was significantly higher (OR 2.0, p=0.00) for cases performed by general surgeons (2.3 days) compared to cases performed by plastic surgeons (0.73 days) (table 2).

Table 2. Odds Ratios

Risk Factors	Wound Infection		Overall Complications		Post-Op LOS		Septic Complication		Return to OR	
	OR	p	OR	p	OR	p	OR	p	OR	p
Gen Surg	1.9	0.000	1.86	0.000	2.03	0.000	1.68	0.228	2.3	0.000
Black	1.15	0.6	1.05	0.8	0.79	0.002	0.409	0.324	0.93	0.871
Hispanic	0.39	0.055	0.36	0.016	1.10	0.158	-	-	0.24	0.063
Other	1.7	0.39	1.6	0.392	0.96	0.837	11.79	0.003	0.89	0.914
Unknown	0.74	0.31	0.83	0.439	1.11	0.049	0.25	0.191	0.94	0.863
Female	0.9	0.66	0.93	0.74	1.47	0.000	2.16	0.23	1.18	0.588
Age 25-39	-	-	3.22	0.119	1.05	0.697	-	-	1.16	0.84
Age 40-59	-	-	2.66	0.18	0.947	0.697	-	-	0.87	0.86

Age ≥ 60	-	-	2.60	0.21	0.906	0.494	-	-	0.79	0.776
BMI 30-39	3.19	0.000	2.46	0.000	2.17*	0.000	3.36	0.093	1.46	0.159
BMI ≥ 40	5.4	0.000	4.15	0.000	2.17*	0.000	12.85	0.000	2.12	0.02
Cardio	0.9	0.64	1.03	0.868	1.04	0.301	0.79	0.65	1.01	0.951
Pulmonary	0.9	0.60	1.21	0.407	1.37	0.000	2.34	0.93	1.57	0.163
Renal	0.42	0.46	1.66	0.468	0.768	0.07	12.14	0.022	3.11	0.151
DM	1.44	0.134	1.69	0.011	1.09	0.07	2.42	0.089	2.08	0.013
Partially Dep	3.7	0.002	3.94	0.001	2.42	0.000	2.58	0.172	2.06	0.165
Totally Dep	-	-	3.39	0.150	4.77	0.000	-	-	7.65	0.022
Smoker	1.04	0.85	1.2	0.359	0.75	0.000	1.35	0.579	1.45	0.189

****p ≤ 0.05**

Conclusion: The apparent complication rate increase associated with general surgeons performing body contouring procedures suggests the need for specialized skill and training². Optimal execution of these burgeoning complex procedures, with lesser morbidity, seems to be a byproduct of the nation's plastic surgery training programs.

Additionally, the outcomes in this study might lend objectivity to contentious and unsettled debates, legislation³ and oversight regarding patient safety issues^{3,4,5} and “turf wars” (amongst specialty groups) as they pertain to these challenging aesthetic procedures.

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