

Head and Neck Free Flap Reconstruction in an Academic Versus a Community Setting

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Introduction

Head and neck free flap reconstructions are complex procedures requiring extensive resources and have the potential to be highly morbid. As such, they must be performed in an appropriate setting, optimizing outcomes while limiting morbidity. The aim of this study is to identify any disparities in the treatment outcomes of patients undergoing head and neck free flap reconstruction by a single surgeon in an academic versus a community hospital setting.

	University Hospital (N=57)	Community Hospital (N=35)	Total (N=92)
Flap Type			
Osteocutaneous fibula	22 (38.6%)	13 (37.1%)	35 (38%)
Anterolateral thigh	16 (28.1%)	14 (40%)	30 (32.6%)
Radial forearm	10 (17.5%)	8 (22.9%)	18 (19.6%)
Latissimus dorsi	5 (8.8%)	0 (0%)	5 (5.4%)
Other	4 (7%)	0 (0%)	4 (4.3%)

Table 1: Free Flap Type by Hospital Setting

Methods

A retrospective review of all patients who underwent head and neck free flap reconstruction for any indication by a single surgeon from 2009 to 2019 was conducted. All surgeries were performed at one of two hospitals; one academic medical center and one community hospital. Demographics and rates of partial or complete flap failure, medical complications, surgical complications, mortality, and other secondary outcomes were compared between the two settings.



Results

- Ninety-two patients who underwent head and neck free flap reconstruction were included. Fifty-seven (62%) of free flap reconstructions were performed in the academic medical center while 35 (38%) were performed in the community hospital. (Table 1 for flap breakdown)
- No significant difference in patient comorbidities were noted besides age, and incidence of Diabetes Mellitus (Table 2)
- There were **no significant differences in complete flap loss**, either intra-operative or post-operative ($p=0.5060$), **partial flap loss** ($p=0.5827$), **surgical complications** ($p=0.2930$) or **medical complications** ($p=0.7960$) between groups.
- The in-hospital mortality rate was 0% ($n=0$) at the university hospital, as compared to 5.7% at the community hospital ($p=0.0681$). (Table 3)
- There was a significant difference in mean operative time between community and academic centers, 702 and 606 minutes respectively ($p=0.008$). (Table 2)

Discussion

- Reconstruction at a community center was associated with a shorter operative time of nearly 100min
- Head and neck free flap surgery can be performed safely in either an academic or a community setting, with no difference in primary outcomes of surgery.
- Preferential selection of either treatment setting should be based on consideration of patient needs and availability of auxiliary specialty services.

	University Hospital (N=57)	Community Hospital (N=35)	Total (N=92)	p value
Age (mean)	56	68	60	0.0001
Sex (% Male)	41 (72%)	24 (69%)	65 (71%)	
Obesity	13 (23%)	10 (29%)	23 (25%)	0.535
Current Smoker	11 (19%)	3 (8.6%)	14 (15%)	0.38
DM	4 (7%)	8 (23%)	12 (13%)	0.029
Hypertension	25 (44%)	21 (60%)	46 (50%)	0.133
Recon following cancer resection	47 (82%)	32 (91%)	79 (86%)	0.230
Mean Procedure Duration (mn)	702.3 (189)	606.3 (94)	667.1 (167)	0.009
Follow-up (in months)	57	35	92	0.053

Table 2: Patient Characteristic By Hospital Setting

Financial Disclosures

The authors have no financial interests in this product or company.

	University Hospital (N=57)	Community Hospital (N=35)	Total (N=92)	p value
Complete Flap Loss	3 (5%)	1 (3%)	4 (4%)	0.506
Partial Flap Loss	3 (5.3%)	1 (2.9%)	4 (4.3%)	0.5827
Major Surgical Complications	9 (15.8%)	2 (5.7%)	11 (12%)	0.293
Major Medical Complications	2 (3.5%)	2 (5.7%)	4 (4.3%)	0.796
Hospital Stay	11.2 (7.92)	11.0 (6.90)	11.2 (7.51)	0.9806
Disposition to facility	12 (21.1%)	20 (57.1%)	32 (34.8%)	0.0004

Table 3: Free Flap Reconstruction Outcomes by Hospital Setting