

Interesting Top Bariatric Papers: What Would You Do?

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- I have no financial disclosures

Original article

Does accreditation matter? An analysis of complications of bariatric cases using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program and National Quality Improvement Program databases

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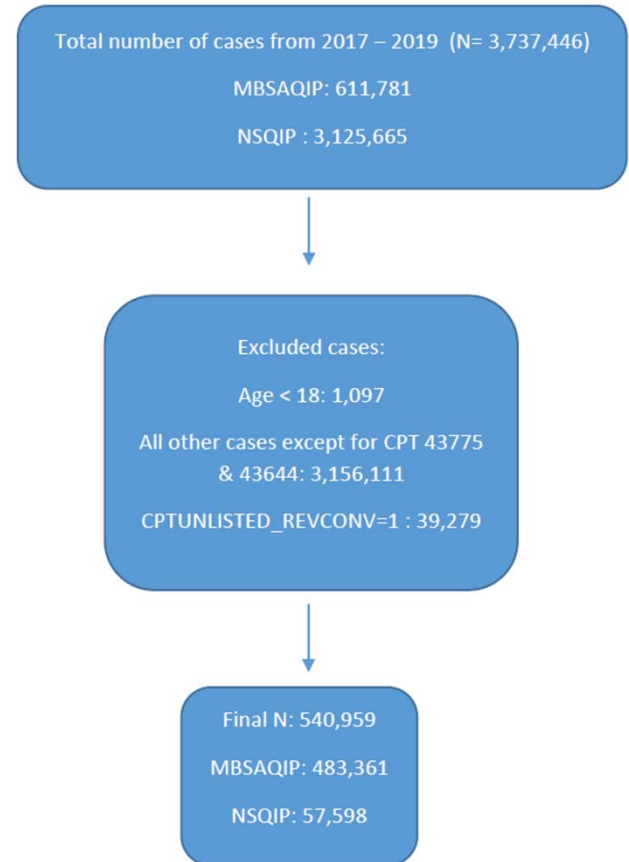
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- Evaluate concordance of data and post-operative complications between 2 large US databases: National Surgical Quality Improvement Program (NSQIP) and the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP).
- 850 participating centers from MBSAQIP and 694 centers from NSQIP
- 126 (18.1%) overlapping centers

1. Deep Incisional SSI Occurrences
2. Organ/Space SSI Occurrences
3. Pneumonia
4. Unplanned Intubation
5. Pulmonary Embolism
6. Ventilator > 48Hours
7. Progressive Renal Insufficiency
8. Acute Renal Failure
9. Urinary Tract Infection
10. CVA/Stroke with neurological deficit
11. Myocardial Infarction
12. Bleeding/Transfusions
13. DVT/Thrombophlebitis
14. Sepsis
15. Death

- **Inclusion:**
 - 2017-2019
 - CPT: 43644 – Lap RNYGB, 43775 – Lap SG
- **Exclusion:**
 - <18 years old
 - Revisional surgery



- Majority SG: 73.8%: 64% NSQIP, 74% MBSAQIP
- Mean age: 44.4 (12)
- Mean BMI: 45.2(7.7)
- Female: 80%, Male: 20%
- White: 70%, African-American: 18.3%
- Non-diabetic: 74.2%, IDDM: 8.1%, non-insulin dependent DM: 17.7%
- ASA Class 3: 74.9%, Class 2: 21%, Class 4: 3.5%
- Non-smoker: 91.9%, smoker: 8.1%



Table 2
Comparison of outcomes by large databases

Factor	Cohort N = 540,959	MBSAQIP n = 483,361	NSQIP n = 57,598	P-value	PR (95% CI)
No. of deep incisional SSI occurrences				.24	
0	540,669 (100%)	483,108 (100%)	57,561 (99.9%)		Reference
≥1	290 (0.1%)	253 (0.1%)	37 (0.1%)		1.2 (0.9–1.7)
No. of organ/space SSI occurrences				<.001	
0	539,688 (99.8%)	482,321 (99.8%)	57,367 (99.6%)		Reference
≥1	1271 (0.2%)	1040 (0.2%)	231 (0.4%)		1.9 (1.6–2.2)
Occurrences of pneumonia				<.001	
0	539,960 (99.8%)	482,501 (99.8%)	57,459 (99.8%)		Reference
≥1	999 (0.2%)	860 (0.2%)	139 (0.2%)		1.4 (1.1–1.6)
Unplanned intubation	625 (0.1%)	559 (0.1%)	66 (0.1%)	.94	1.0 (0.8–1.3)
Pulmonary embolism	611 (0.1%)	521 (0.1%)	90 (0.2%)	.001	1.5 (1.2–1.8)
Occurrence of ventilator use >48 hr				.006	
0	540,602 (99.9%)	483,058 (99.9%)	57,544 (99.9%)		Reference
≥1	357 (0.1%)	303 (0.1%)	54 (0.1%)		1.5 (1.1–2.0)
Progressive renal insufficiency	329 (0.1%)	284 (0.1%)	45 (0.1%)	.075	1.3 (1.0–1.8)
Acute renal failure	325 (0.1%)	296 (0.1%)	29 (0.1%)	.31	0.8 (0.6–1.2)
Occurrences of urinary tract infection				<.001	
0	538,972 (99.6%)	481,676 (99.7%)	57,296 (99.5%)		Reference
≥1	1987 (0.4%)	1685 (0.4%)	302 (0.5%)		1.5 (1.3–1.7)
CVA/Stroke with neurological deficit	76 (0.0%)	71 (0.0%)	5 (0.0%)	.25	0.6 (0.2–1.5)
Myocardial infarction	147 (0.0%)	115 (0.0%)	32 (0.1%)	<.001	2.3 (1.6–3.5)
Bleeding requiring transfusion	3597 (0.7%)	3165 (0.7%)	432 (0.8%)	.008	1.2 (1.0–1.3)
DVT/Thrombophlebitis	1078 (0.2%)	903 (0.2%)	175 (0.3%)	<.001	1.6 (1.4–1.9)
Occurrences of sepsis				<.001	
0	540,332 (99.9%)	482,872 (99.9%)	57,460 (99.8%)		Reference
≥1	627 (0.1%)	489 (0.1%)	138 (0.2%)		2.4 (2.0–2.9)
Death	451 (0.1%)	407 (0.1%)	44 (0.1%)	.54	0.9 (0.7–1.2)

Table 3
Propensity-adjusted comparison of outcomes between databases

	<u>MBSAQIP</u>	<u>NSQIP</u>	PR (95% CI)	<i>P</i> -value
	<u>n = 57,479</u>	<u>n = 57,479</u>		
	<u>n (%)</u>	<u>n (%)</u>		
No. of deep incisional SSI occurrences: ≥ 1	29 (0.1%)	37 (0.1%)	1.1 (0.7–1.8)	.65
No. of organ/space SSI occurrences: ≥ 1	104 (0.2%)	231 (0.4%)	2.1 (1.6–2.6)	<.001
Occurrences of pneumonia: ≥ 1	95 (0.2%)	139 (0.2%)	1.4 (1.1–1.8)	.016
Unplanned intubation	58 (0.1%)	65 (0.1%)	1.1 (0.7–1.5)	.79
Pulmonary embolism	55 (0.1%)	90 (0.2%)	1.6 (1.1–2.3)	.006
Occurrences of ventilator use >48 hr: ≥ 1	29 (0.1%)	54 (0.1%)	1.6 (1.0–2.5)	.050
Progressive renal insufficiency	30 (0.1%)	44 (0.1%)	1.3 (0.8–2.1)	.24
Occurrences of acute renal failure: ≥ 1	25 (0.0%)	29 (0.1%)	1.1 (0.6–1.8)	.85
Urinary tract infection	174 (0.3%)	301 (0.5%)	1.7 (1.4–2.0)	<.001
CVA/Stroke with neurological deficit	8 (0.0%)	5 (0.0%)	0.6 (0.2–1.7)	.31
Myocardial infarction	8 (0.0%)	32 (0.1%)	3.7 (1.7–8.1)	.001
Bleeding transfusions	388 (0.7%)	429 (0.8%)	1.1 (0.9–1.2)	.42
DVT/Thrombophlebitis	100 (0.2%)	175 (0.3%)	1.8 (1.4–2.3)	<.001
Occurrences of sepsis: ≥ 1	53 (0.1%)	138 (0.2%)	2.4 (1.7–3.3)	<.001
Death	41 (0.1%)	42 (0.1%)	1.0 (0.6–1.5)	.88

Table 4
Adjusted association stratified by sleeve and bypass

	CPT 43644 (n = 32,761)		CPT 43775 (n = 81,548)	
	PR (95% CI)	<i>P</i> - value	PR (95% CI)	<i>P</i> - value
No. of deep incisional SSI occurrences: ≥ 1	1.0 (0.6–1.8)	.96	1.3 (0.6–3.0)	.55
No. of organ/space SSI occurrences: ≥ 1	2.0 (1.4–2.8)	<.001	2.1 (1.5–2.9)	<.001
Occurrences of pneumonia: ≥ 1	1.5 (1.0–2.2)	.044	1.3 (0.9–1.8)	.19
Unplanned intubation	0.6 (0.4–1.1)	.12	1.5 (0.9–2.3)	.109
Pulmonary embolism	1.8 (1.0–3.2)	.056	1.5 (1.0–2.3)	.052
Occurrences of ventilator use >48 hr: ≥ 1	1.1 (0.6–1.9)	.83	2.7 (1.3–5.7)	.008
Progressive renal insufficiency	1.0 (0.5–1.9)	.99	1.8 (0.9–3.6)	.098
Occurrences of acute renal failure: ≥ 1	0.7 (0.3–1.4)	.28	1.7 (0.8–3.8)	.18
Urinary tract infection	1.4 (1.0–1.9)	.03	1.9 (1.5–2.3)	<.001
CVA/Stroke with neurological deficit	1.0 (0.2–4.8)	.97	0.2 (0.0–1.9)	.17
Myocardial infarction	11.8 (1.6–88.3)	.016	2.5 (1.0–6.1)	.042
Bleeding transfusions	1.1 (0.9–1.3)	.59	1.1 (0.9–1.3)	.63
DVT/Thrombophlebitis	1.6 (0.9–2.6)	.091	1.8 (1.4–2.4)	<.001
Occurrences of sepsis: ≥ 1	2.0 (1.3–3.1)	.002	2.8 (1.8–4.4)	<.001
Death	0.7 (0.3–1.3)	.22	1.3 (0.7–2.3)	.38

- More accurate bariatric outcomes data in MBSAQIP
- Non- bariatric dedicated personnel as clinical reviewers for NSQIP
- NSQIP sample size: 10%
- Pooled data without granularity to individual centers for accurate comparison
- 18% overlap of centers across both databases

- Majority of centers participating in NSQIP are non-accredited bariatric centers.
- Accreditation provides protective effect on patients undergoing bariatric surgery
- Low complication rates of bariatric surgery in general and across both study groups

Thank You